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IN THE

UNITED STATES COURT OF APPEALS

FOR THE FOURTH CIRCUIT

No 7,294

S. H. KRESS & COMPANY,

Appellant,

vs.

ELIE P. AGHNIDES and CHASE BRASS & COPPER COMPANY, INC.,

Appellees.

Appeal from the United States District Court for the Middle District of North Carolina, Greensboro, North Carolina.

Appendix to Appellant's Brief
Volume 1

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IN THE

UNITED STATES COURT OF APPEALS

FOR THE FOURTH CIRCUIT

No. 7,294

S. H. KRESS & COMPANY,

Appellant,

vs.

ELIE P. AGHNIDES and CHASE BRASS & COPPER COMPANY, INC.,

Appellees.

Appeal from the United States District Court for the Middle District of North Carolina, Greensboro, North Carolina.

Appendix to Appellant's Brief

Volume 1

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(2):

IN THE UNITED STATES DISTRICT COURT

(Caption—Civil Action No. 857-G)

DOCKET ENTRIES.

May 13, 1954	Filed Complaint—(Cash Bond Ledger page 390)
May 13, 1954	Issued Summons to Marshal for service
May 14, 1954	Filed Summons returned executed May 13, 1954 by leaving copy with A. J. Ellis, Mgr. Lomax, Dep. Marshal
June 3, 1954	Filed Order signed by Judge Hayes allowing defendant until July 6, 1954, to file answer.
Jul. 6, 1954	Filed Answer for Deft.
Oct. 8, 1954	Filed Plaintiff's Interrogatories
Nov. 12, 1954	Filed Stipulation extending time to Nov. 12, 1954, for deft to file answers to the Interrogatories.
Nov. 12, 1954	Filed Deft's Answers to Plaintiff's Interrogatories.
Nov. 17, 1954	Filed Notice of Taking Depositions.
Nov. 17, 1954	Filed Notice and Motion for Inspection and Copying
Nov. 22, 1954	Filed Motion for Inspection and Copying
Nov. 22, 1954	Filed Notice
Nov. 22, 1954	Filed Notice of Taking Deposition
Nov. 26, 1954	Filed Notice of Taking Deposition
Dec. 1, 1954	Filed Order for production and copying of documents
Dec. 8, 1954	Filed Reply to Counterclaim
Dec. 21, 1954	Filed Notice of Motion & Motion to strike Reply to Counterclaim

Dec. 21, 1954	Filed Notice of Motion & Motion for leave to file Amendment to Answer.
Dec. 21, 1954	Filed Motion for leave to file Reply to Counterclaim
Dec. 30, 1954	Filed Notice
Dec. 30, 1954	Filed Notice of Taking Deposition.
Dec. 30, 1954	Filed Motion for inspection and copying
Jan. 6, 1955	Filed Order for Production & copying of documents
Jan. 10, 1955	Filed Affidavit
Jan. 13, 1955 (3):	Filed Depositions
Jan. 17, 1955	Filed Deposition of Elie P. Aghnides, C. H. Williamson, Arthur E. Guerber, Sidney Shames and Harold Shames.
Jan. 20, 1955	Filed Amendment to Answer—Service Accepted.
Jan. 26, 1955	Called for trial before Judge Hayes, without Jury
Jan. 26, 1955	Motion for 2nd Count of Complaint be dismissed by defendant. Motion overruled. Move by Plaintiff to Amend Complaint and include Chase Brass and Copper Co. Inc., as plaintiff. Motion granted 2 plaintiff witnesses sworn.
Jan. 27, 1955	Trial continues
Jan. 28, 1955	Trial continues—Adjourns to Monday 23, 1955.
Jan. 28, 1955	Filed Order signed by Judge Hayes allowing Chase Brass and Copper Co. Inc., as an additional party plaintiff.
Feb. 11, 1955	Filed Defendant's Second Answer.
Feb. 17, 1955	Filed Reporter's Transcript of Evidence
Feb. 28, 1955	Filed Reply to Counterclaim
Sept. 19, 1955	Filed Notice of Taking Depositions.

Sept. 19, 1955	Filed Plaintiff's Interrogatories.
Sept. 21, 1955	Filed Depositions of Earl E. Brown, et al.
Oct. 3, 1955	Filed Motion Under Rule 30 (d) to terminate examination and affidavits
Oct. 7, 1955	Filed Deposition of Garrett Findlay Muho, et al.
Oct. 10, 1955	Trial continues with evidence for plaintiff.
Oct. 11, 1955	Trial continues with evidence for plaintiff.
Oct. 12, 1955	Trial continues with evidence for plaintiff.
	1 plaintiff witness sworn
	Plaintiff rests
	Evidence for Defense offered.
	Depositions opened by Nelson B. Castevens in open court
	1 defense witness sworn
Oct. 13, 1955	Trial continues with evidence for defendant
Oct. 13, 1955	Defendant Rests
	Court adjourned to Dec. 6, 1955 because of sudden illness of Mr. Ely, Chief Attorney for Plaintiff
Oct. 13, 1955	Filed Defendant's Second Amendment to Answer
Oct. 31, 1955	Filed Transcript of Proceedings—Volume #2 Court Reporter
Jan. 16, 1956	Filed Defendant's Main Brief for Proposed Findings and Conclusions of Law.
(4):	
Jan. 17, 1956	Filed Brief for Plaintiff and Proposed Findings of Fact and Conclusions of Law
Jan. 26, 1956	Filed Motion to Reopen for Additional Proofs together with Memorandum and affidavit of Will Freeman
	Certified copy of file wrapper of Aghnides' Canadian Patent 490,112 and Charts 1 and 2.

VOL. I

Feb. 1, 1956	Filed Reply Brief for Plaintiff
Feb. 6, 1956	Filed Plaintiff's Memorandum, Re: Deft's Motion to Reopen
Feb. 13, 1956	Filed Supplemental Memorandum in support of Deft's Motion to reopen for additional proofs.
Apr. 17, 1956	Filed Order signed by Judge Hayes denying Motion to reopen case.
May 7, 1956	Filed Findings of Fact and Conclusions of Law
May 7, 1956	Filed Defendant's Proposed Findings of Fact and Conclusions of Law (Refused)
May 7, 1956	Filed Opinion—Hayes Judge
May 22, 1956	Filed Decree in favor of plaintiff
May 23, 1956	Filed Order allowing Defendant's Exceptions
June 12, 1956	Filed copy of Decree served on June 6, 1956, at 114 5th Ave., New York, as to S. H. Kress & Company and on June 6, 1956, at 432 Austin Place, New York as to Melard Mfg. Corp.
June 19, 1956	Filed Notice of Appeal, copy to Brooks, McLendon, Brim & Holderness and Ely, Frye & Hamilton, Attys. for Plaintiff.
June 19, 1956	Filed Bond on Appeal (Cash Bond—Ledger page 56)
July 5, 1956	Filed Notice of Motion—Service accepted
July 5, 1956	Filed Motion for extension of time to docket appeal in Court of Appeals.
July 12, 1956	Filed Order extending time to docket case on appeal to Sept. 7, 1956
July 12, 1956	Filed Order that Judgment be stayed pending determination of Appeal and fixing Supersedeas Bond at $1,750.00

Aug. 16, 1956	Filed Defendant-appellant's designation of Record
Aug. 30, 1956	Filed Motion for Order respecting physical Models, Diagrams and Exhibits
Aug. 30, 1956	Filed Notice of Motion
Aug. 31, 1956	Filed Supersedeas Bond
Aug. 31, 1956	Filed Plaintiff's Comments on Deft's Motion Respecting Physical Exhibits
Aug. 31, 1956	Filed Objection to Improper Inclusion of Material In Record on Appeal.

(5):

Sept. 4, 1956	Filed Notice of Motion in open Court to release exhibits to Attorneys pending appeal.
Sept. 4, 1956	Called for hearing on deft's motion to release the exhibits pending appeal in Fourth Circuit Motion denied.

(7):

IN THE UNITED STATES DISTRICT COURT

(Caption—Civil Action No. 857-G)

COMPLAINT.

COUNT 1.

Plaintiff for a first and separate count alleges:

1. That this action arises under the Patent Laws of the United States and jurisdiction is invoked under Title 28, United States Code, Section 1338.

2. That plaintiff resides at 46 West 54th Street, New York, 19, New York.

3. That defendant, S. H. Kress & Company, is a New York corporation, domesticated in North Carolina December 31, 1938, and having a regular established place of business at Greensboro, North Carolina, where and else-

where the infringement complained of herein has been committed.

4. That plaintiff is the patentee and owner of the following United States Letters Patent:

No. 2,210,846 Issued August 6, 1940
No. 2,316,832 Issued April 20, 1943

5. That plaintiff has the entire right and interest to sue and recover for all infringements of said patents.

6. That the inventions described and claimed in said patents are of great value and have gone into widespread use, as the result of extensive manufacture and sale of devices embodying said inventions by responsible manufacturers operating through licenses under said patents.

7. That devices manufactured and sold under said pattents have been plainly marked with the required statutory notice of said patents.

(8):

8. Upon information and belief that defendant has been and still is infringing said patents by selling devices known as "Mel-O-Flo Jet Aerators," which aerators embody the inventions of the aforesaid patents.

9. That plaintiff has been damaged and defendant has profited from the said infringement.

COUNT 2.

Plaintiff for a second and separate count realleges the allegations of paragraphs 1, 2, 3, 4, 6 and 7 of Count 1 and further alleges:

10. That plaintiff has the entire right and interest to sue to enjoin all infringements of said patents.

11. Upon information and belief defendant is infringing said patents by selling devices known as "Mel-O-Flo Jet Aerators", and will continue to do so unless enjoined by this Court.

12. That plaintiff is being injured and will continue to be injured by said infringements unless said infringements are enjoined by this Court.

Wherefore, plaintiff prays:

1. With respect to Count 1, that an accounting be ordered compelling defendant to pay to plaintiff all damages resulting from defendant's infringement.

2. With respect to Count 2, that preliminary and final injunctions be issued against further infringement of said patents by defendant, and those in privity with defendant.

3. That plaintiff's costs be assessed against defendant, together with reasonable attorneys' fees.

4. That plaintiff be granted such other and further relief as the Court may deem proper.

Elie P. Aghnides, Plaintiff
Brooks, McLendon, Brim & Holderness

(9):

IN THE UNITED STATES DISTRICT COURT

(Caption—Civil Action No. 857-G)

ANSWER.

S. H. Kress & Company, Defendant in the above-entitled cause, by its attorneys, for Answer to the Complaint of the Plaintiff herein states:

In Answer to Count I of the Complaint.

1. Defendant admits the allegations of Paragraph 1 of the Complaint.

2. Defendant admits the allegations of Paragraph 2 of the Complaint.

3. (Answering Paragraph 3 of the Complaint.) Defendant admits that it is a New York corporation having a regular established place of business at Greensboro, North

Carolina. Defendant denies that it has committed any act of infringement, as alleged by Plaintiff, either in Greensboro, North Carolina, or elsewhere in the United States. (10):

4. (Answering Paragraph 4 of the Complaint.) Defendant admits that the Plaintiff is the patentee of United States Letters Patent Nos. 2,210,846 and 2,316,832. Defendant is without knowledge as to the legal and/or equitable ownership of said patents, and, therefore, leaves Plaintiff to his proofs thereof.

5. (Answering Paragraph 5 of the Complaint.) Defendant is without knowledge as to Plaintiff's rights and interests in said patents, and, therefore, leaves Plaintiff to his proofs thereof.

6. (Answering Paragraph 6 of the Complaint.) Defendant is without knowledge or information as to any use, manufacture, or sale of devices by manufacturers allegedly operating through licenses under the aforementioned patents, and, therefore, leaves Plaintiff to his proofs thereof. As to the alleged invention described and claimed in said patents, Defendant denies that they are of great value and have gone into widespread use, and further, upon information and belief, Defendant affirmatively alleges that none of the structures shown and described in Patent No. 2,210,846 has ever been manufactured and/or sold commercially in the United States.

7. (Answering Paragraph 7 of the Complaint.) Defendant is without knowledge as to the allegations therein, and, therefore, leaves Plaintiff to his proofs thereof. (11):

8. (Answering Paragraph 8 of the Complaint.) Defendant admits that it has sold devices known as "Mel-O-Flo Jet Aerators", but denies all the other allegations in Paragraph 8. Defendant specifically denies that it has

infringed the patents set forth in the Complaint by its sale of said aerators, and further, Defendant specifically denies that said "Mel-O-Flo Jet Aerators" which it sells embody the alleged inventions of said patents.

9: (Answering Paragraph 9 of the Complaint.) Defendant denies that Plaintiff has been damaged by any act of the Defendant, and Defendant further denies that it has profited from any infringement of said patents.

In Answer to Count II of the Complaint.

10. (Answering Paragraph 10 of the Complaint.) Defendant is without knowledge as to the allegations therein, and, therefore, leaves Plaintiff to his proofs thereof.

11. (Answering Paragraph 11 of the Complaint.) Defendant specifically denies that it has infringed, or is infringing, any of the patents set forth in the Complaint by reason of its sale of "Mel-O-Flo Jet Aerators", and Defendant further denies the other allegations set forth.

12. (Answering Paragraph 12 of the Complaint.) Defendant denies that it has infringed, or is infringing, any of the patents set forth in the Complaint. Defendant further denies that Plaintiff has been, or will be, injured by its sale of "Mel-O-Flo Jet Aerators". Defendant denies that Plaintiff is entitled to an injunction, either preliminary or final, of the type which would restrain Defendant from continuing to sell "Mel-O-Flo Jet Aerators".

(12):

And as Further and Affirmative Defenses, This Defendant Alleges as Follows:

13. That United States Letters Patent No. 2,210,846, and the claims therein, were, upon trial of a cause in the United States District Court in Chicago, Illinois, based upon said patent, found to be invalid by District Judge Holly, and that said decision finding Patent No. 2,210,846

invalid was affirmed by the United States Court of Appeals for the Seventh Circuit, in a reported case entitled:

Aghnides *v.* Goodrie et al., 210 F. (2) 859.

(Decided February 24, 1954—Rehearing denied March 31, 1954).

14. That said United States Letters Patent Nos. 2,210,846 and 2,316,832, and each and every one of the claims therein, are invalid, void, and of no effect because the alleged invention, or discovery, purportedly described and claimed in said patents was merely the result of the exercise of the ordinary faculties of reasoning aided by the special knowledge and facility of manipulation which are acquired through habitual and intelligent practice of the art, known as non-inventive mechanical skill, and was not a result of the inventive faculty which it is the purpose of the Constitution and the Patent Laws to encourage and reward.

(13):

15. That each of United States Patent Nos. 2,210,846 and 2,316,832, and each of the claims thereof, are invalid and of no effect in law on the ground that the alleged inventions set forth and claimed therein, or all substantial and material parts thereof, had, prior to the alleged invention thereof by the patentee, or more than two years prior to any effective filing date of the application of said patent, been shown, described, and patented or published

in various patents and printed publications, including the following, among others, to-wit:

United States Letters Patent

Patent No.	*Patentee*	*Date of Issue*
881,548	Claflin	Mar. 10, 1908
1,912,113	Aghnides	May 30, 1933

Foreign Patents

British Patent 6,012	Felten	Mar. 12, 1909
British Patent 136,663	Purser	Dec. 30, 1919
British Patent 323,242	Battersby	Dec. 30, 1929
British Patent 375,066	Aghnides	June 23, 1932
British Patent 405,316	Solomon	Feb. 5, 1934

and in other patents and publications for which Defendant is diligently searching and prays leave to add to this Answer when found.

(14):

16. That United States Letters Patent Nos. 2,210,846 and 2,316,832, and each of the claims therein, are invalid and of no effect in law on the following grounds:

(a). The alleged invention defined thereby is not in fact an invention or combination but is a mere aggregation of old elements.

(b). The patents are not in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which they appertain, or with which it is most nearly connected to make, employ, or use the same, as required by law.

(c). The claims of said patents, and each of them, do not comply with R.S. 4888, 35 USC 33, in that they are vague, indefinite, and ambiguous, and they do not, and none of them does, distinctly claim the part, improvement, or combination, which the applicant

claims is his invention or discovery, but, on the contrary, said claims, and each of them, attempts to patent a function or result.

(d). The claim of said patents are broader than and are not properly based upon, or supported by the disclosure of the application as originally filed in the United States Patent Office on December 31, 1937.

(15):

(e). The effectaive filing date of the application and continuation thereof which resulted in Letters Patent Nos. 2,210,846 and 2,316,832 is limited to the actual filing date thereof in the United States, namely, December 31, 1937, and is not entitled to the filing date of December 8, 1934, in Belgium.

(f). The alleged invention or discovery purportedly described and claimed in said patents involved nothing more than the exercise of mere mechanical skill in view of the state of the art as known at the time of, and long prior to the alleged invention or discovery thereof by the applicant for said patents, said state of art including the prior patents listed in Paragraph 15 hereof, and instead comprises but the mere copying and adaptation of the principals of construction and operation of water and air mixing devices and other apparatus known previously, as is to be expected of anyone skilled in the art.

17. Defendant further alleges that the aerating devices which it sells and which are charged by Plaintiff to infringe Patent Nos. 2,210,846 and 2,316,832 are not an infringement of any of the claims of any of said Letters Patent because they do not embody the structural features disclosed and claimed in said Letters Patent; and further,

(16):

that the claims of said patents are so limited in terms and in light of the prior art and by virtue of limitations

and interpretations necessarily placed upon them during the prosecution of the application therefor in the Patent Office as to render them ineffective in scope to cover any device sold by Defendant, and Plaintiff is estopped by the proceedings in the Patent Office in connection with the prosecution of the applications for said patents to assert that the "Mel-O-Flo Jet Aerators" used or sold by Defendant constitute an infringement upon any of the claims thereof of said patents.

Wherefore, Defendant prays:

1. That judgment and decree be entered denying Plaintiff the relief sought in its complaint.

2. That Letters Patent Nos. 2,210,846 and 2,316,832 be adjudged invalid and unenforceable.

3. That it be adjudged that the Defendant is not infringing and has not infringed any of the claims of said Letters Patent Nos. 2,210,846 or 2,316,832.

4. That the said Complaint be dismissed with costs and attorneys' fees awarded to Defendant.

5. That the Court grant Defendant such other and further relief as appears meet and just.

(17):

COUNTERCLAIM

As a counterclaim herein, Defendant, S. H. Kress & Company, alleges as follows:

1. This is a counterclaim for Declaratory Judgment based on United States Code, Title 28, Section 2201, and jurisdiction of this Court arises under the Patent Laws of the United States, United States Code, Title 28, Section 1338.

2. As to residence and place of business of Plaintiff and Defendant, Defendant hereby adopts by reference the allegations contained in Paragraphs 2 and 3 of this Answer.

3. Plaintiff has charged this Defendant with infringement of United States Letters Patent Nos. 2,210,846 and 2,316,832 by reason of Defendant's sale of "Mel-O-Flo Jet Aerator" aerating devices.

4. Said Letters Patent Nos. 2,210,846 and 2,316,832 in suit, are invalid and void and Defendant has not infringed and is not infringing the same for the reasons alleged in Paragraphs 13 to 17 of Defendant's Answer.

5. An actual controversy exists between Plaintiff and Defendant with respect to said Letters Patent in suit and with respect to Defendant's right to continue to use and sell the device charged by Plaintiff to infringe said Letters Patent and with respect to the validity of the scope of said Letters Patent.

(18):

Wherefore, Defendant prays for Declaratory Judgment that Letters Patent Nos. 2,210,846 and 2,316,832 are invalid and void and that none of the claims of said Letters Patent is infringed by Defendant; that costs and reasonable attorneys' fees be awarded to Defendant; and that the Court grant such other and further relief as appears meet and just.

S. H. Kress & Company
By *Norman Block*

(34):

In the United States District Court

* * (Caption—Civil Action No. 857-G) * *

(Nov. 17, 1954)

MOTION FOR INSPECTION AND COPYING

Now comes Defendant, S. H. Kress & Company, in the above entitled action, and in accordance with Rule 34 of the Rules of Civil Procedure, moves this Court for an order that there be produced by Plaintiff for inspection,

copying or photographing the following documents and things:

1. Each and every device or model demonstrated by Elie P. Aghnides, plaintiff herein, or by his patent attorneys, to representatives of the United States Patent Office, including the Board of Appeals thereof, during the prosecution of the aplication of the two (2) Aghnides' patents in suit,
   (a) as being illustrative of the structures of the British Hasiman Patent No. 7005, and the United States Frederick Patent No. 2,003,184;

(35):

   (b) as being illustrative of the structures of any other prior art patents or prior art devices;
   (c) as being illustrative of the structures disclosed in the application of said two (2) Aghnides' patents in suit;
2. A representative sample of each and every device or model, commercial or otherwise, made by or for said Aghnides in substantial accordance with each of the seven various forms of devices shown in the drawings of the Aghnides patent in suit No. 2,210,846, and of the three forms of devices shown in the drawings of the Aghnides patent in suit No. 2,316,832.
3. A representative sample of each and every device or model made, used or sold by said Aghnides embodying the alleged invention disclosed in said two (2) Aghnides' patents in suit.
4. A representative sample of each and every device or model, commercial or otherwise, made by or for said Aghnides in substantial accordance with the structures and forms shown in the prior art Aghnides patent No. 1,912,113 of May 30, 1933.

(36):

5. Each and every license agreement, and all modifications thereof, entered into between said Aghnides and his licensees in accordance with which said licensees were granted licenses under the two (2) Aghnides' patents in suit.
6. A representative device of each and every type and style of device made, used or sold commercially under said two (2) Aghnides' patents in suit by or for each of the licensees named in the license agreements produced under paragraph 5 hereof.

at the Clerk's Office, Room 601, United States District Court, Southern District of New York, Foley Square, New York, New York, located in the United States District wherein Plaintiff herein resides, at 10:00 A. M. on Monday, December 6, 1954.

• • •

(30):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

ORDER FOR PRODUCTION AND COPYING OF DOCUMENTS

This cause coming on to be heard before the Honorable Johnson J. Hayes, United States District Judge, upon (1) the motion of the defendant served on November 16, and filed on November 17, 1954, to require the plaintiff, Elie P. Aghnides, to produce and to permit the defendant to inspect and to make copies of certain documents, papers and things set forth in the said motion, and upon (2) the motion of the plaintiff served upon the defendant and filed on November 22, 1954, to require the defendant, S. H. Kress & Company, to produce and to permit the plaintiff to inspect and make copies of certain documents, papers,

and things, and it appearing to the Court from representations of counsel for the respective parties that the defendant has agreed to produce the documents, papers, and things set forth in the plaintiff's motion except those which constitute confidential communications between attorney and client, and the plaintiff has agreed to produce the documents, papers, and things, set forth in the defendant's motion except those which are no longer in existence. (31):

IT IS ORDERED that the plaintiff produce at the Clerk's Office, Room 601, United States District Court, Southern District of New York, Foley Square, New York, New York, at 10:00 a.m. on Monday, December 6, 1954, for inspection, copying, or photographing by the defendant all of those documents, papers, and things set forth in the Motion of the defendant served on the plaintiff on November 16, and filed in this cause on November 17, 1954, except those documents, papers and things which are not now in existence, and,

IT IS ORDERED that the defendant produce at the offices of Pennie, Edmonds, Morton, Barrows & Taylor, at 247 Park Avenue, Room 1800, New York, New York, at 10:00 a.m. on Tuesday, December 7, 1954, for inspection, copying or photographing by the plaintiff all of those documents, papers and things set forth in the Motion of the plaintiff served on the defendant and filed in this cause on November 22, 1954, except those documents and papers which constitute a confidential communication between attorney and client.

This the 1 day of December, 1954.

Johnson J. Hayes
Johnson J. Hayes, Judge
United States District Court

(32):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

REPLY TO COUNTERCLAIM

1. Answering paragraphs 1, 2, and 3 of the Counterclaim, plaintiff admits the allegations thereof.

4. Plaintiff denies each and every allegation of paragraph 4 of the Counterclaim.

5. Plaintiff admits that an actual controversy exists between plaintiff and defendant with respect to the validity of the patents in suit and with respect to infringement thereof by defendant.

6. Plaintiff denies that defendant is entitled to any relief as prayed for in the Counterclaim.

Elie P. Aghnides, Plaintiff
Brooks, McLendon, Brim & Holderness

Dec. 6, 1954

(41):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

AMENDMENT TO ANSWER

Now comes S. H. Kress & Company, defendant, and by leave of Court first duly had and obtained, files in the above-entitled cause an Amendment to its Answer heretofore filed, and says:

IN PARAGRAPH 15 OF THE ANSWER

Add to the list of Prior Art listed in Paragraph 15 of the Answer the following:

UNITED STATES LETTERS PATENT

Patent No.	Patentee	Date of Issue
326,221	Hyatt	Sept. 15, 1885
591,830	Ferguson	Oct. 19, 1897
1,195,044	Lockwood	Aug. 15, 1916

PUBLICATION

"A Descriptive and Historical Account of Hydraulic and Other Machines for Raising Water", by Thomas Ewbank. Derby and Jackson, New York, N .Y. (14th Ed., 1857), Publisher.

S. H. Kress & Company
By *Norman Block*
Attorney for the Defendant

(46):

In the United States District Court

(Caption—Civil Action No. 857-G)

MOTION TO ADD NEW PARTY PLAINTIFF

The plaintiff, Elie P. Aghnides, moves the Court for an order allowing Chase Brass & Copper Company, Inc., to appear in the above captioned action as a party plaintiff and to file a complaint therein adopting the complaint of plaintiff, Elie P. Aghnides, because it ought to be a party plaintiff if complete relief is to be accorded for the alleged infringement of the patents involved in said action and as between those already parties, for that Chase Brass & Copper Company, Inc., is the assignee of the said patents, under an assignment from plaintiff, Elie P. Aghnides. Plaintiff, Elie P. Aghnides, further states that Chase Brass

& Copper Company, Inc., can be made a party plaintiff without depriving this Court of the jurisdiction of the parties already before it; and that it is a corporation organized and existing under the laws of the State of Connecticut, and intends to subject itself to the jurisdiction if this Court by filing a complaint in said action.

Thornton H. Brooks
Attorney for Plaintiff,
Elie P. Aghnides

(43):

IN THE UNITED STATES DISTRICT COURT

• • • (Caption—Civil Action No. 857-G) • • •

ORDER ADDING NEW PARTY PLAINTIFF

By consent of the defendant made in open court, the motion of the plaintiff, Elie P. Aghnides, to allow Chase Brass & Copper Company, Inc., to appear and enter into this action as an additional party plaintiff is granted, and it is ordered that it be made an additional party plaintiff and that the title to this action be amended to list it as a party plaintiff, and that Chase Brass & Copper Company, Inc., be allowed to file a complaint herein adopting the complaint and pleadings of the plaintiff, Elie P. Aghnides.

It is further ordered that the defendant have twenty days within which to file answer or other pleadings to said complaint.

This 28th day if January, 1953.

U. S. District Judge
Johnson J. Hayes

(44):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

COMPLAINT OF CHASE BRASS & COPPER COMPANY, INC.

I.

The plaintiff, Chase Brass & Copper Company, Inc., is a corporation organized and existing under the laws of the State of Connecticut, with its principal office at Waterbury, Connecticut.

II.

The defendant is a corporation organized and existing under the laws of the State of New York.

III.

The plaintiff, Chase Brass & Copper Company, Inc., is the assignee of U. S. Letters Patent No. 2,210,846 dated August 6, 1940, and No. 2,316,832 dated April 20, 1943, by virtue of written assignment from the patentee, Elie P. Aghnides, delivered December 8, 1954.

IV.

The plaintiff, Chase Brass & Copper Company, Inc., hereby adopts by reference all the allegations of the complaint and other pleadings of the plaintiff, Elie P. Aghnides, as filed in this action and asks that said complaint and pleadings be taken and considered as its own.

(45):

WHEREFORE, the plaintiff, Chase Brass & Copper Company, Inc., prays that such relief demanded in said adopted complaint of Elie P. Aghnides as plaintiff Chase Brass & Copper Company, Inc., is entitled to, be granted to it.

Ely, Frye & Hamilton
Brooks, McLendon, Brian & Holderness
Attorneys for Plaintiff,
Chase Brass & Copper Company, Inc.

(47):

IN THE UNITED STATES DISTRICT COURT

(Caption—Civil Action No. 857-G)

DEFENDANT'S SECOND ANSWER

Now comes Defendant, S. H. Kress & Company, and in Answer to the Complaint of Chase Brass & Copper Company, Inc., which was filed in this Court on January 28, 1955, pleads as follows:

I. Defendant admits the allegations in Paragraphs I, II, and III of said Complaint.

II. In Answer to Paragraph IV of said Complaint, Defendant hereby adopts by reference all of the allegations and pleadings in Paragraphs 1 to 17 inclusive of its Answer, and in Paragraphs 1 to 5 of its prayer for judgment, heretofore filed in this action on July 6, 1954.

III. In addition to the Prior Art listed in Paragraph 15 of said Answer of July 6, 1954, Defendant further

(48):

alleges the following Prior Art references which now should be added to said Paragraph 15, by amendment:

United States Letters Patent

Patent No.	Patentee	Date of Issue
326,221	Hyatt	Sept. 15, 1885
591,830	Ferguson	Oct. 19, 1897
1,058,330	Page et al	Apr. 8, 1913
1,195,044	Lockwood	Aug. 15, 1916

Foreign Patents

British Patent 19,654	Wright	Oct. 19, 1893
British Patent 12,345	Vielliard	June 1, 1898

Publication

"A Descriptive and Historical Account of Hydraulic and Other Machines for Raising Water . . . etc.", by Thomas Ewbank, Derby and Jackson, New York, New York, (14th Ed. 1857) Publisher—pages 475-481—.

AND AS FURTHER AND AFFIRMATIVE DEFENSES AGAINST THE COMPLAINTS OF THE PLAINTIFFS, ELIE P. AGHNIDES AND CHASE BRASS & COPPER COMPANY, INC., THIS DEFENDANT ALLEGES AS FOLLOWS:

IV. The Plaintiffs, Elie P. Aghnides and Chase Brass & Copper Company, Inc., from January, 1944 and continuing until December, 1954, had conspired with each other (49):

under the cloak of a license agreement or agreements to utilize the aforesaid patents as a means for bringing about the sale of unpatented products, to-wit: faucets, with which the subject matter of said patents may be used, the said license agreements being restricted to the sale of aerators of the patents only with the sale of faucets, except in a very restricted and limited sense, said license agreements being of the kind that permitted large volume sales of aerators, or faucets including aerators, to large manufacturers, and precluded sale of aerators to small manufacturers or users, except by approval of the then licensor, Elie P. Aghnides.

V. That certain license agreements between the Plaintiff, Elie P. Aghnides and his various licensees—namely, Firestone Tire & Rubber Company, Chicago Faucet Company, and Montgomery Ward & Company—to which license agreements the Plaintiff, Chase Brass & Copper Company, Inc., has now succeeded as assignee of the Plaintiff, Elie P. Aghnides, each includes provisions for dividing world markets with respect to the subject matter of the two United States Letters Patent which are the subject matter of this lawsuit, and that the said Plaintiff, Chase Brass & Copper Company, Inc., is at present carrying on its business with the full knowledge that the world market has

been divided, and accepted transfer, from said Plaintiff, Elie P. Aghnides, of the license agreements with said three licensees—"Firestone", "Chicago Faucet", and "Montgomery Ward"—with the full knowledge that it would be benefited therefrom by the limitation and division of world markets, said Plaintiff not being so limited.

(50):

That within six years last past, the said Plaintiffs, Aghnides and Chase, and said licensees herein referred to have operated under the cloak of the aforesaid patents with "tying clauses" preventing the sale of aerators apart from faucets (an unpatented product), and have operated under written agreements for dividing world markets, all in violation of the Anti-Trust Laws of the United States and against public policy, and to the detriment and irreparable injury of the Defendant, S. H. Kress & Company.

VI. That the pattern of conduct on the part of the said Plaintiff, Elie P. Aghnides—and by said Aghnides' assignee, the Plaintiff, Chase Brass & Copper Company, Inc.—by their licensing programs has been such as to prevent free, open competition in aerators, and that said Plaintiffs used and are using said patents to obtain unlawfully benefits from the patents beyond the statutory grant thereof.

That because of such improper use of their patents, in violation of the Anti-Trust Laws, said Plaintiffs, Elie P. Aghnides and Chase Brass & Copper Company, Inc., have rendered said patents unenforceable.

Wherefore, Defendant prays that this Court hold, declare and adjudge that Plaintiffs have violated the Anti-Trust Laws by expanding the statutory grant of said Letters Patent Nos. 2,210,846 and 2,316,832, and that as a result thereof Plaintiffs' patents and their claims based thereon are unenforceable in law or equity.

COUNTERCLAIM

As a Counterclaim herein, Defendant, S. H. Kress & Company pleads as follows:
(51):

VII. Defendant hereby adopts by reference all of the allegations and pleadings in Paragraphs 1 to 5 inclusive of its Counterclaim and the prayer for judgment heretofore filed with said Answer in this action on July 6, 1954.

AND AS AN ADDITIONAL COUNTERCLAIM AGAINST PLAINTIFFS, ELIE P. AGHNIDES, AND CHASE BRASS & COPPER COMPANY, INC., THIS DEFENDANT ALLEGES AS FOLLOWS:

VIII. Defendant hereby adopts by reference all of the allegations and pleadings in Paragraphs IV, V, and VI of this document and hereby pleads same as a cause of action for damages that have been sustained by Defendant, S. H. Kress & Company, as a result of the violations by Plaintiffs of the Anti-Trust Laws of the United States.

Wherefore, Defendant prays this Honorable Court to award an injunction restraining and enjoining the Plaintiffs, Elie P. Aghnides and Chase Brass & Copper Company, Inc., their officers, agents, attorneys, servants, employees, and all others acting by and under its direction and authority in any way, from violating the Anti-Trust Laws under the cloak of patent licensing under Letters Patent Nos. 2,210,846 and 2,316,832; and that this Honorable Court find that Plaintiffs, Aghnides and Chase, in the conduct of their business, have, in connection with said Letters Patent Nos. 2,210,846 and 2,316,832 violated the Anti-Trust Laws and injured the Defendant herein; and that an accounting be awarded to Defendant to determine the damages suffered by Defendant as a result of said Plaintiffs' Anti-Trust violations, and that said dam-

ages so determined be trebled in accordance with the Anti-
(52):
Trust Laws; and that said Plaintiffs, Aghnides and Chase, be required to pay the costs of this suit, together with reasonable attorneys' fees because of the wrongful acts done by said Plaintiffs.

S. H. Kress & Company
Norman Block
Attorney for Defendant

(53):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

REPLY TO COUNTERCLAIMS ANNEXED TO DEFENDANT'S SECOND ANSWER.

1. In reply to the counterclaim, paragraph VII, plaintiffs adopt by reference all of the pleadings of the Reply to Counterclaim of Aghnides, filed December 8, 1954.

2. In reply to the additional counterclaim, paragraph VIII, plaintiffs deny each and every allegation of paragraphs IV, V and VI of defendant's second answer, deny that defendant has been damaged by any acts of plaintiffs or either of them, and deny that plaintiffs have in any way violated the Anti-Trust Laws of the United States.

3. Plaintiffs further deny that defendant is entitled to any relief as prayed for in said counterclaim, or any of them.

Elie P. Aghnides and
Chase Brass & Copper Company, Inc.
By Thornton H. Brooks,
Attorney for Plaintiffs.

(55):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

DEFENDANT'S SECOND AMENDMENT TO ANSWER.

Now comes Defendant, S. H. Kress & Company, and by leave of Court first duly had and obtained, amends Paragraph 15 of the Answer heretofore filed on July 6, 1954 to include the following:

AS FURTHER AND AFFIRMATIVE DEFENSES RE UNITED STATES PATENT 2,316,832

(15a.) That patent 2,316,832 and each of the claims thereof are invalid and of no effect in law on the grounds that the alleged inventions set forth and claimed therein, or all substantial and material parts thereof.

(i.) were known, or used, or sold by Chicago Faucet Company of Chicago, Illinois, in this country before the invention thereof by Aghnides,

(ii.) were in public use in this country more than two years prior to the date of application for patent which resulted in said patent 2,316,832,

(iii.) were on sale in this country more than two years prior to the date of application for patent which

(56):

resulted in said patent 2,316,832,

and (iv.) before Aghnides' invention thereof, the invention was made in this country by another who had not abandoned, suppressed, or concealed it.

S. H. Kress & Company
By Norman Block
Attorney for Defendant

(57a):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

PLAINTIFFS' PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

Plaintiffs submit the attached proposed findings of fact and conclusions of law.

(57):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

FINDINGS OF FACT

I

This is an action for infringement of two patents, No. 2,210,846, issued August 6, 1940, and No. 2,316,832, issued April 20, 1944, to the plaintiff Elie P. Aghnides.

II

Plaintiff Aghnides is a citizen and resident of New York, N.Y., and is the patentee of both patents in suit. Plaintiff Chase Brass & Copper Company, Inc., is a corporation organized and existing under the laws of the State of New York with its principal office at Waterbury, Connecticut; and is, by written assignment from plaintiff Aghnides delivered December 8, 1954, the assignee, subject to certain reservations of interest in Aghnides, of said patents Nos. 2,210,846 and 2,316,832.

(58):

III

Chase Brass & Copper Company, Inc., was added as an additional party plaintiff by order of the Court on motion of plaintiff Aghnides at the first hearing of this case on January 26, 1955, and said Chase Brass & Copper Company, Inc., thereupon filed its complaint adopting all of the

allegations of the original complaint and other pleadings of plaintiff Aghnides theretofore filed in this action, and the trial was adjourned January 28, 1955 to permit formulation of issues and preparation for trial thereon.

IV

The defendant, S. H. Kress & Company, is a New York corporation, domesticated in North Carolina December 31, 1938, and having a regular and established place of business at Greensboro, North Carolina.

V

The Court has jurisdiction of the parties and the subject matter of this suit.

VI

After Chase Brass & Copper Company, Inc., was added as a party plaintiff, defendant filed, on February 11, 1955, a second answer and counterclaim charging plaintiffs Aghnides and Chase Brass with improper use of their patents, in violation of the Anti-Trust Laws and interposed an affirmative claim for damages based thereon. These allegations were denied by plaintiffs, and the issues thereon (59):

were to be tried along with the issues of validity and infringement of the patents in suit when the case resumed hearing. In the interval between hearings, plaintiffs carried on extensive discovery proceedings including the taking of depositions in preparation to meet the charges of mis-use of patents and violation of the Anti-Trust Laws. When the case resumed hearing on October 10, 1955, defendant stated in open court that it had abandoned its defense of mis-use of patents and violation of the Anti-Trust Laws and its counterclaim based on them.

VII

Aghnides Patent No. 2,210,846 is for a water aerator adapted to be attached to the outlet end of a faucet or tap

and consists of a relatively large open chamber into the upper end of which the water and air separately enter and from which his soft, splashless, thorough aerated, bubbly streams. The water enters through an aperture or apertures as unconfined, fine jets having high velocity. The chamber is provided with independent air ports through which air from the atmosphere freely passes into the chamber so as to surround the water jets and be available for mixing with the water as air already in the chamber is mixed and is discharged with the water at the outlet. The high velocity naked jets pass through this body of air and strike against resistance which is shown in several of the figures of the patent drawing to be a screen or superposed screens or a combination of shoulders and a screen located at the outlet end of the chamber. This resistance is pro-
(60):
portioned to the velocity of the jets so that it finely breaks up the water, mixes the broken-up water with air, and thereafter unites the broken-up water so as to form a coherent stream with the air imprisoned in the water in the form of small bubbles disseminated throughout. The water issues from the outlet end of the chamber as a soft, splashless, coherent, white stream or column of water filled with a multitude of fine air bubbles.

VIII

Patent No. 2,316,832 is for an improvement upon the basic conception of Patent No. 2,210,846, and is directed to means for compensating for variations in pressure in the stream of water entering the aerator. This improvement consists in either placing a second perforated diaphragm upstream from the diaphragm of the first patent, or in providing a restricted orifice upstream from said first diaphragm, or in providing both the second diaphragm and the restricted orifice upstream from said first diaphragm.

This results in a more perfect, improved stream of soft, splashless, coherent water under varying conditions of pressure.

IX

Patent No. 2,210,846 is a basic patent covering devices having the structure or its equivalent and performing the functions and purposes described in Finding No. VII hereof. The improvement of Patent No. 2,316,832 is not essential for achieving the purposes and objects of the basic invention, but is a valuable improvement which may be used to compensate for variations in pressure.

(61):

X

The Aghnides' invention was an innovation in the field of aeration of water and for the first time gave the homeowner a device to be attached to his water faucet which would produce at the point of use a coherent, soft, splashless stream of thoroughly aerated water containing millions of tiny air bubbles. There was no prior device giving such a result. It has gone into widespread use and today is an item of standard equipment on faucets of practically every faucet manufacturer, large and small. By the end of 1954 over 21,000,000 had been sold.

XI

Patents Nos. 2,210,846 and 2,316,832 have been recognized by substantial concerns in this country who have taken licenses under the patents. One of these licensees was Chase Brass & Copper Company, Inc., which has recently acquired ownership of the patents. Other manufacturers presently operating under licenses under the patents are Firestone Tire and Rubber Company of Akron, Ohio, and the Chicago Faucet Company of Chicago, Illinois. Licenses have been granted under corresponding patents in European countries.

XII

The largest producer under the patents in this country is Chase Brass & Copper Company, Inc., which concern, prior to acquiring its license in 1944, made an extensive investigation of the validity of the patents in suit, and also made unsuccessful attempts to achieve the results of the invention by other means.
(62):

XIII

The basic invention of Patent No. 2,210,846 was disclosed in applicant's Belgian Patent 406,702 filed in Belgium December 8, 1934. The first application for patent in the United States was filed December 4, 1935 as Serial No. 52,923. During the pendency of the said application Serial No. 52,923, the application on which the patent in suit issued was filed December 31, 1937, Serial No. 182,884 as a continuation of application Serial No. 52,923, whereupon application No. 52,923 was abandoned.

XIV

Application for Patent No. 2,210,846 was several times rejected by the Examiner on references, primarily the British patent of Felten, No. 6012 of 1909 (Plaintiffs' Exhibit 24). Plaintiff Aghnides came to this country in 1939 and interviewed the Examiner with respect to the rejection of his application on the Felten patent and made comparative demonstrations of devices embodying his invention with a device which he has made in conformity with the Felten patent. The Examiner withdrew the Felten patent as a reference but finally rejected the claims of the application on a British patent of Haisman, 7005 of 1913 (Plaintiffs' Exhibit 76), and United States patent to Friedrich, 2,003,184. Appeal was taken to the Board of Appeals of the Patent Office at which Aghnides appeared and demonstrated aerators embodying the invention of Patent No. 2,210,846 and reproductions which he had made of the

Haisman and Friedrich patents. Following the hearing and (63):
the demonstrations the Board of Appeals allowed the claims of Patent No. 2,210,846 (File Wrapper of Patent 2,210,846, Plaintiffs' Exhibit 16.)

XV

Application for Patent No. 2,316,832 was likewise rejected by the Examiner, among the references cited being the Felten, Haisman and Friedrich patents aforesaid. These patents were later withdrawn as references, and the Examiner finally rejected the claims on Aghnides' own patent No. 2,210,846 which had issued in the meantime. Appeal was taken to the Board of Appeals, and after a hearing at which Aghnides demonstrated devices embodying the invention of his Patent No. 2,316,832 the claims of the patent were allowed. (File Wrapper of Patent No. 2,316,832, Plaintiffs' Exhibit 17.)

XVI

Defendant, prior to the filing of the Complaint herein, sold aerators at Greensboro, North Carolina, known as "Mel-O-Flo" aerators, which are charged to infringe both patents in suit, manufactured by Melard Manufacturing Corporation located in New York City. Two of these aerators were purchased by a representative of plaintiffs from defendant's store in Greensboro on March 30, 1954, and are in evidence as plaintiffs' exhibits 18 and 19.
(64):

XVII

Plaintiffs exhibited to the Court aerators made by manufacturers licensed under the patents, namely, a "Spring-Flo" aerator (Pl. Ex. 29) made by Chase Brass & Copper Company, Inc., a "Soft-Flo" aerator (Pl. Ex. 30) made by Chicago Faucet Company, and a "Velva-Flo" aerator (Pl. Ex. 31) made by Firestone Tire and Rubber Company.

Also exhibited were models of aerators made according to the modification shown in Fig. 4 (Pl. Ex. 28) and the modification shown in Fig. 6 (Pl. Ex. 32) of Patent No. 2,210,846.

XVIII

The Aghnides' aerators referred to in Finding XVII and defendant's Mel-O-Flo aerator (Pl. Ex. 18) were taken apart and examined by the Court, and each of these aerators is found to embody the structural features of Patent No. 2,210,846 as set forth in Finding VII hereof. Correspondence of the structural elements of the defendant's Mel-O-Flo aerator to those of Aghnides is shown in plaintiffs' Exhibit 33 which applies claims 1 and 4 of this patent to the Mel-O-Flo aerator.

XIX

A demonstrator tank equipped with faucets for the attachment of aerators, with a pump for circulating water from the tank through the faucets, and with a pressure gauge and a vacuum gauge was used to test the mode of operation and results of the alleged infringing Mel-O-Flo aerator and the Aghnides' aerators embodying the struc-
(65):
tures claimed in the patents. The aerators referred to in Finding XVII and defendant's Mel-O-Flo aerator (Pl. Ex. 18) and demonstration elements thereof were connected to faucets of the tank and the tank operated in the presence of the Court.

XX

The Mel-O-Flo aerator gave a coherent, white stream thoroughly filled with a multitude of fine air bubbles disseminated throughout and splashless and soft to the touch, the same result observed to be characteristic of Aghnides' aerators. The Court observed the mode of operation and the results attained by all of these devices to be substantially identical.

XXI

Various models of the Aghnides' device, the Mel-O-Flo device, a prior art vacuum pump device, Felten and Aghnides own prior vacuum pump were tested upside down so that the stream of water emitted from the faucet in fountain fashion. These tests afforded means of determining the relative volumes of air added by each of the devices tested. The results are set forth in Plaintiffs' Exhibit 28 and are summarized as follows:
(66):

		Cubic Inches of Air Added to Each Cubic Inch of Water
Transparent Felten	(Pl. Ex. 44)	.5
Metal Felten	(Pl. Ex. 56)	.7
Aghnides Vac. Pump	(Pl. Ex. 47)	.1
Spring-Flo	(Pl. Ex. 29)	6.0
Aghnides Fig. 4	(Pl. Ex. 28)	4.3
Mel-O-Flo	(Pl. Ex. 58)	5.1

The results show the Aghnides aerator and the Mel-O-Flo aerator to be comparable in result and different from the prior art devices.

XXII

Defendant's Mel-O-Flo aerator is an embodiment of Aghnides' invention and utilizes substantially the same elements and the same mode of operation to accomplish the same result.

XXIII

Defendant's Mel-O-Flo aerator (Pl. Ex. 18) has the second upstream diaphragm of Patent No. 2,316,832, and when used with the adaptor with which it is sold embodies both the second upstream diaphragm and the restricted upstream orifice of Patent No. 2,316,832.

XXIV

Two charts (P. Exs. 35 and 37) applying claims 2 and 4 of Aghnides 2,316,832 to the structural elements of the Mel-O-Flo aerator show the correspondence of those structures to the elements of the Aghnides claim.
(67):

XXV

The one upstream diaphragm in the Mel-O-Flo aerator is formed by the toothed disk and the other upstream diaphragm is formed below the toothed disk by the bulb or onion and the surrounding ring providing an annular space therebetween through which water is forced into the chamber below with substantial velocity. Demonstration showed that the space between the two Mel-O-Flo diaphragms is full of water but that the individual streamlets do not lose their identity. Demonstration further showed that when the one or the other of the two Mel-O-Flo diaphragms is used alone, the characteristic Aghnides' bubbly stream is still produced by the device. Defendant's Mel-O-Flo aerator is an embodiment of Aghnides' invention in Patent No. 2,316,832 and the same or equivalent elements accomplish the same result in the same way.

XXVI

Defendant did not produce any evidence that any device embodying the Aghnides combination of elements operating in accordance with his mode of operation on giving his results existed prior to Aghnides' invention.

XXVII

Seven prior United States patents, seven prior British patents and a prior publication were cited against patent numbers 2,210,846 and 2,316,832. The following were relied on at the trial:

(a) *Hyatt Patent No.* 326,221, *issued* 1885. This is an aerating system for purifying the water supply of a city (68):
before it enters the city mains and the air is intended to escape from the water long before it reaches the home owner. There is no idea of supplying the home-owner with a soft, splashless, aerated stream of water. No device is indicated which could be used by the homeowner to secure aeration at the faucet itself, the point of use.

(b) *Ferguson Patent No.* 591,830, *issued* 1897. This is a complicated mechanism for the production of effervescent or "Nauheim" baths by injecting a salt solution charged with CO2 gas below the surface of the bath water in a bath tub. The gas and salt solution both enter under pressure and the structure and mode of operation are different than Aghnides. There is nothing in this disclosure suggestive of the Aghnides' aerator for the homeowner to attach to his faucet to get a soft, splashless, coherent jet of bubble-filled water.

(c) *Claflin Patent No.* 881,548, *issued* 1908. This is an adjunct to a vacuum steam heating system to maintain an extremely high vacuum of 29". It is not designed as an aerator nor intended to operate as an aerator but rather the design is typical of vacuum pumps. The device is totally unsuited for drinking water because even the small amount of air evacuated from the steam system would pollute the water and make it taste of steam. The production of a bubbly soft, splashless stream characteristic of Aghnides is not possible for the device doesn't pass sufficient air under any circumstances since it operates under vacuum.

(69):

(d) *Lockwood Patent No.* 1,195,044, *issued* 1916. This apparatus is a massive commercial purification plant for

saccharine juices which are then stored in a large tank. It does not propose or suggest any device of use to the homeowner. It is not designed to be attached to a faucet and does not produce a soft, splashless stream of aerated water from a faucet.

(e) *Aghnides Patent No.* 1,912,113 *issued* 1933 (*and Aghnides British Patent No.* 375,066) This is Aghnides' own patent. It is a vacuum pump not an aerator. Its operation was demonstrated to the Court. It produces a high vacuum of 25 inches and adds only .1 of a cubic inch of air to 1 cubic inch of water whereas Aghnides' aerator produces substantially no vacuum and adds 6 cubic inches of air—60 times as much. It does not operate on the same principle as the Aghnides' aerator but on the principle of a vacuum pump with a flooded chamber which prevents the back-flow of air. The Aghnides' vacuum pump was adapted and intended to be attached to a closed container for extracting a limited amount of air therefrom.

(f) *Felten British Patent No.* 6012 *of* 1909 (*and Fuss Patent No.* 1,090,044). This device is also designed to secure a vacuum. Models thereof were demonstrated to the Court by plaintiff from which Felten's construction, mode of operation and results were made evident. Felten's device does not produce the fully aerated, soft, stream characteristic of Aghnides and does not operate on the same principle or use the same combination of elements. It produces (70):

a high vacuum of 25" of mercury as in the case of Aghnides' own vacuum pump but in contrast with 1" or less produced by Aghnides' aerator and by defendant's "Mel-O-Flo" aerator. Felten is so constructed that the energy of the water is spent in creating a vacuum and not in securing aeration. Demonstration showed that it adds less than 5/10 of a cubic inch of air to 1 cubic inch of water

whereas Aghnides' aerator adds 6 cubic inches or 12 times as much.

Not only was it demonstrated that Felten's result is different but that he secures his result by different elements and by a different mode of operation. The patent states that the result is secured by means of a "conically widening chamber e, the widening of which produces in a well known manner the suction of the gas from the perforation d owing to the flow of the liquid from the perforation c into the widened chamber e". (Felten Patent, p. 1, line 28). This has no counterpart in Aghnides. Felten, to secure his result, must keep the chamber flooded—the exact opposite of Aghnides. This was demonstrated by a transparent model (Exh. 44) which made it possible to see that the widening chamber was at all times flooded and that there were no individual jets striking Felten's baskets. The flooding of the chamber was also demonstrated by drilling a hole into a widening chamber whereupon water squirted out and, when the air through the inlet provided by Felten above the chamber was cut off no air entered any place and the device became inoperative even as a vacuum pump. Felten's necessity for flooding was also demonstrated by eliminating the flooding (by removing the outlet baskets) under which circumstances the device produced a mere (71):

jet of water with neither vacuum nor aeration. This is a fundamentally different mode of operation than Aghnides as could be seen from the demonstration of an Aghnides' aerator with the sides cut out (P. Exh. 39). The chamber in Aghnides is not a widening one as in Felten and was not flooded but on the contrary contained only the naked water jets in free air striking his resistance screens.

The fundamental nature of the difference between the Felten device and the Aghnides' aerator was also visually

demonstrated to this Court by providing a Felten device (P. Exh. 42) with greatly increased resistance below his baskets—in the amount of 21 screens! The device none the less created substantially the same amount of vacuum as it did without the screens, showing that the intended function of the device was not changed even by a great change in the amount of resistance. On the other hand, when the resistance of an Aghnides' aerator (P. Exh. 42) was increased by adding only three screens its proper proportioning was destroyed, the device flooded and it became useless for its intended purpose. It was also demonstrated that Felten's baskets are not essential to his operation and are not elements corresponding to Aghnides' essential resistance screens or shoulders; when Felten's baskets were removed, his device would still operate with a flooded chamber and produce his high vacuum.

(g) *Battersby British Patent No.* 323,242 *of* 1929. This patent was demonstrated at the trial to produce a result quite different from Aghnides. The demonstration showed that Battersby had a harsh, splashing stream which (72):

was even harsher and more splashy than would be secured directly from the faucet. It further showed that the water in the stream was not aerated with imprisoned air bubbles as in Aghnides, but rather, that the water and the air emerged side by side and that the so-called "whitish" color was no different than the whitish color of an ordinary stream of water emerging from a simple water faucet. It further could be observed that Battersby's stream was not a coherent stream as produced by Aghnides but on the contrary an incoherent, divergent stream. Battersby intended to secure a kind of aeration, but not aeration in any sense like Aghnides. Battersby created his aeration by "violent agitation set up in his receptacle" (Battersby

Patent, p. 3, col. 2, line 104). Battersby did not secure and did not want a soft, splashless stream of water filled with air bubbles as created by Aghnides.

(h) *Solomon British Patent No.* 405,316 *issued* 1934. Solomon is a device operating on the same principle as Battersby. It was demonstrated to produce a violent, splashing, divergent stream without air bubbles which secured its kind of aeration by agitation in the glass—a wholly different kind of stream than Aghnides. Battersby and Solomon "mix" air and water only in the sense that air and water are mixed when a stream breaks up in the air with some air here, some water there, as both rush along together. There is no provision of means by which the stream is made coherent and the air is imprisoned in the water in the form of millions of tiny bubbles as is charac-

(73):

teristic of Aghnides. The difference between the kind of mixing secured by the devices of Solomon and Battersby on the one hand, and Aghnides on the other, is similar to the mixture of air and rubber which is present in a brush with rubber bristles on the one hand and the mixture of air and rubber which is present in a foam-rubber sponge on the other hand. In both it can be said there is a mixing of rubber and air but this doesn't make them anything alike.

(i) *Vielliard British Patent No.* 12,345 *of* 1898 *and Purser British Patent No.* 136,663 *of* 1919. Defendant asserted that it would be obvious to create the Aghnides' aerator by combining conventional anti-splash devices such as known in Purser or Vielliard with the structure of Battersby or Solomon. This has not been proved by defendant.

Purser and Vielliard in themselves have nothing to do with aeration and neither one of them has any provision for the admission of air. They are both very old and well-

known and relate to the type of anti-splash device in common use for years. The failure of the art to make the combination is convincing evidence it was not obvious.

To add an anti-splash device such as Purser and Vielliard would change the fundamental operation of Battersby and Solomon who secure their kind of aeration by producing a harsh, divergent, splashy stream. It was made clear by actual demonstration at the trial that an ordinary splash-preventer such as proposed by Purser or Vielliard might be quite adequate for preventing splashing from an ordi-(74):

nary water faucet and yet have no effect whatever in preventing the turbulence of Battersby or Solomon even if it were attempted. The Aghnides' invention was not obvious to the ordinary man skilled in the art in view of Purser and Vielliard.

(j) *Haisman British Patent No.* 7005 *of* 1913. This patent was not relied on by defendant. It was introduced by plaintiffs. It was cited by the Examiner in the Patent Office and the Board of Appeals allowed the Aghnides patent over it as a reference. Its structure is closer to Aghnides than either Solomon or Battersby inasmuch as it does have a screen at the outlet which Solomon and Battersby do not have.

It was demonstrated at the trial that none the less Haisman (as was true in Solomon and Battersby) produced a harsh, divergent spray and did not give the soft, splashless, thoroughly aerated stream characteristic of Aghnides' invention.

XXVIII

None of the prior art patents discloses the Aghnides' invention of his basic patent. Defendant has not proved that it was within the ordinary skill of the art to create the Aghnides' aerator either by modifying or reconstructing

any of these prior patents or otherwise. The Aghnides' aerator was not anticipated and was a valuable innovation requiring invention beyond the ordinary skill of the art. (75):

XXIX

As to Aghnides 2,316,832, defendant relied on the form of Solomon with the drip-prevention feature (Figs. 7 and 8). A model incorporating this feature was demonstrated, and it was made clear that the aperture forming a part of this drip-prevention feature produced no effect whatever on the stream which issued from Solomon and hence was not the same upper diaphragm or restricted orifice of the Aghnides improvement patent.

XXX

The invention of this second patent did not occur to Aghnides until about two years after the invention of his basic patent, and it required invention beyond the skill of the art at that time, as found by the Board of Appeals of the Patent Office.

XXXI

Defendant has not proved an anticipation of this patent 2,316,832 or that it was within the ordinary skill of the art to create the improved combination of this patent. (76):

XXXII

On November 21, 1936 Aghnides had executed a drawing of his conception of an aerating device embodying a restricted orifice as shown in the second Aghnides patent.

XXXIII

Later, during 1937 in the course of negotiations for a license agreement with Chicago Faucet Company to manufacture aerators under the Aghnides inventions and also subsequent to the execution of that license agreement, during the course of the development of a marketable aer-

ator by that Company, Aghnides disclosed to Chicago Faucet Company the use of a restricted orifice in the aerating device.

XXXIV

Aghnides originally conceived the idea of the use of a restricted orifice in 1936 before the adaptation of such an orifice for use in water aerator device by the Chicago Faucet Company and was the first and original inventor thereof.

XXXV

The application for patent No. 2,316,832 to Aghnides embodying a restricted orifice and second upstream diaphragm was filed in the United States Patent Office on April 5, 1940.
(77):

XXXVI

On January 31, 1938, the Chicago Faucet Company had executed a drawing of the aerator proposed to be made by it which showed the restricted orifice of the Aghnides patent.

XXXVII

The drawing of the proposed aerator also showed a wire mesh screen upstream of the diaphragm in the aerator. This wire mesh screen was not the second upstream diaphragm of the Aghnides patent but was a strainer device which had always been used by the Chicago Faucet Company at the outlet end of its faucets and did not cooperate in any manner with the aerating device.

XXXVIII

The aerating device to be manufactured by Chicago Faucet Company consisted of six parts *viz.* an aerator body, an adapter for connection to a faucet, two wire mesh screens, a gasket and a perforated diaphragm.

XXXIX

All the parts, except the body and the adapter which were to be machined by Chicago Faucet Company itself, were purchased in or about February, 1938.

XL

There is no evidence when the aerator body itself or the adapter were made or machined by the Chicago Faucet (78):
Company nor when aerators were completely assembled by that Company.

XLI

Under the license agreement of December 7, 1937 with Aghnides, Chicago Faucet Company was to obtain his approval of the aerator finally manufactured for the market.

XLII

During March, 1938 an advertisement illustrating the model aerator offered for sale by the Chicago Faucet Company appeared in a trade magazine entitled DOMESTIC ENGINEERING.

XLIII

In letters dated December 28, 1937, January 26, 1938, March 14, 1938, and April 30, 1938, Aghnides continuously requested Chicago Faucet Company to send him a sample of the device they intended manufacturing.

XLIV

It was not until April 14, 1938 that such a sample was sent to Aghnides.

XLV

The sales records of the Chicago Faucet Company show, and defendant concedes, that the first sale of aerators by that company embodying a restricted orifice was not made (79):
until May, 1938.

XLVI

The evidence does not clearly and convincingly establish that the Chicago Faucet Company actually had on hand and assembled any aerators embodying the restricted orifice of the second Aghnides patent at the time of the appearance of the advertisement in DOMESTIC ENGINEERING, March, 1938.

XLVII

The evidence establishes, on the contrary, that no such aerator was assembled until at least April 14, 1938, the date a sample was sent to Aghnides and that there was no sale of such aerators until May, 1938, both times being less than two years prior to the filing of the application, on April 5, 1940, for patent No. 2,316,832.

XLVIII

The aerator manufactured by the Chicago Faucet Company was not on sale or sold prior to two years before the filing date of the application for U. S. Patent No. 2,316,832.

XLIX

Melard Manufacturing Corporation of New York, New York, is the manufacturer of the "Mel-O-Flo" aerator devices sold by the defendant, S. H. Kress & Company, and charged to infringe the patents in suit. The complaint, (80):

filed in Greensboro, North Carolina on May 13, 1954, was sent immediately by the manager of the Kress Greensboro store to the legal department of S. H. Kress & Company in New York. Kress wrote to Melard on May 20, 1954 (Pl. Ex. 4) enclosing the summons and complaint, and stating that S. H. Kress & Company was looking to Melard to take over the defense of the case and save them harmless from any and all loss, cost, damage and expense which might arise therefrom. Melard replied to the letter the next day

(Pl. Ex. 5), advising that they had forwarded the summons and complaint to their attorneys.

L

On July 6, 1954, without consulting the Kress Company, the answer to the complaint was filed by Bair, Freeman & Molinare, who now are and for several years prior to July 6, 1954, had been patent counsel for Melard Manufacturing Corporation. Plaintiff filed interrogatories on or about October 7, 1954, to be answered by Kress, and on or about October 19, 1954, a representative of Bair, Freeman & Molinare called upon Kress for the purpose of drafting answers to the interrogatories. This was the first contact between Kress and Bair, Freeman & Molinare, and the first knowledge that Kress had of the filing of the answer by that firm. Bair, Freeman & Molinare had never acted as counsel for S. H. Kress & Company before. Following that meeting, Melard wrote Kress a letter of indemnity dated November 2, 1954, (Pl. Ex. 2) stating that Melard was indemnifying Kress against all claims arising from (31):

charges of patent infringement as a result of Kress' sale of Mel-O-Flo aerators. This letter of indemnity was accepted by Kress as being in full compliance with Kress' letter of May 20, 1954, asking Melard to take over the defense of this case.

LI

At the trial of this action, the defense was conducted by Bair, Freeman & Molinare. Mr. Freeman stated in open Court that it was being paid for by Melard.

LII

Melard Manufacturing Corporation has defended the action in the name of S. H. Kress & Company and the control of the defense by Melard Manufacturing Corporation has been exercised to protect its own rights in the manufacture of Mel-O-Flo aerators.

CONCLUSIONS OF LAW

I

The Court has jurisdiction over the subject matter of this action and the parties thereto.

II

The Aghnides Patent No. 2,210,846 is good and valid in law.

III

The Aghnides Patent No. 2,316,832 is good and valid in
(82):
law.

IV

The plaintiff, Aghnides, held legal title to and was the owner of said patents at the commencement of this action and up until December 8, 1954.

The plaintiff, Chase Brass & Copper Co., Inc., now has legal title to said patents.

V

The defendant, S. H. Kress & Company, has infringed claims 1 to 4 inclusive of patent 2,210,846 and all claims of patent 2,316,832 by the sale within this District prior to the filing of the Complaint herein, of "Mel-O-Flo" aerators manufactured by Melard Manufacturing Corporation of New York, New York.

VI

The determinations of validity of the patents in suit and infringement thereof are effective and binding upon the defendant, S. H. Kress & Company, and upon the manufacturer, Melard Manufacturing Corporation.

VII

Judgment may be entered awarding plaintiffs damages and costs and ordering an accounting to ascertain and determine the amount of damages.
(83):

VIII

That a permanent injunction shall issue under the seal of this Court directed to the defendant, S. H. Kress & Company, and to Melard Manufacturing Corporation, and to each of them, enjoining each of them and their officers, agents, representatives, employees and attorneys, and all those in privity and participation with them, and each of them, from infringing said Patents Nos. 2,210,846 and 2,316,832, or either of them, during the life of said patents, respectively.

Johnson J. Hayes
United States District Judge

(84):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

DEFENDANT'S FINDINGS OF FACT AND CONCLUSIONS OF LAW

Findings of Fact

1. The Plaintiff, Elie P. Aghnides, is an individual residing in New York, New York and was, until December 8, 1954, owner of United States Patents Nos. 2,210,846 and 2,316,832, the patents here in suit. The Plaintiff, Chase Brass & Copper Co., Inc. is a corporation of the State of Connecticut, having its principal office at Waterbury, Connecticut, and has been, since December 8, 1954, the owner of said patents in suit.

2. S. H. Kress & Company is a New York corporation which is admitted to do business in North Carolina, and has a regular and established place of business at Greensboro, North Carolina. Kress has at all times during the pendency of this suit had control thereof.

3. The Defendant, S. H. Kress & Company, is charged with infringement of Claims 1-4, inclusive, of Patent No.

2,210,846, and of all the Claims, Nos. 1-4, inclusive, of Patent No. 2,316,832, by reason of its sale of aerating devices sold under the name of "Mel-O-Flo Jet Aerator" and exemplified by Plaintiff's Exhibit 18.

(85):

4. The Aghnides patent in suit No. 2,210,846 is entitled "Fluid Mixing Device". In each of the seven forms of devices shown in the patent, there is provided:

(a) a casing which defines a mixing chamber;

(b) a jet forming means at the upper end of the mixing chamber for forming at least one jet of liquid entering said mixing chamber;

(c) fluid passageways leading into the mixing chamber, and the jet of liquid being operative to suck fluid into the mixing chamber; and

(d) at least one resistance screen in the path of the jet of liquid operating to effect mixing of the liquid and fluid prior to issuance of the mixture from the lower end of the device.

(86):

5. The prior art patents—Felten (British) 6012 of 1909, Battersby (British) 323,242, Solomon (British) 405,316, Hyatt (U.S.) 326,221, Ferguson (U.S.) 591,830, Claflin (U.S.) 881,548, Lockwood (U.S.) 1,195,044 and Aghnides (U.S.) 1,912,113—disclose various forms of fluid mixing devices. In each and all of the various forms of fluid mixing devices in said prior art patents, there is provided:

(a) a casing which defines a mixing chamber;

(b) a jet forming means at the upper end of the mixing chamber for forming at least one jet of liquid entering said mixing chamber;

(c) fluid passageways leading into the mixing chamber, and the jet of liquid is operative to suck fluid into the mixing chamber; and

(d) means in the path of the jet of liquid which operates to effect mixing of the liquid and fluid prior to issuance of the mixture from the lower end of the device.

The prior art patents of Felten and Hyatt use perforated plates, or resistance screens as the means for effecting mixing of the liquid and fluid. (See Findings of Fact Nos. 6 and 8 below).

The prior art patents of Solomon, Battersby, and Aghnides (1,912,113) use solid members, against which the jets of liquid are directed, as the means for effecting mixing of the liquid and fluid. (See Findings of Fact Nos. 11, 15 and 18 below).

(87)

6. Prior art Felten British patent No. 6012 of 1909 shows a device for mixing water and ozone-containing-air. The Felten device includes a casing defining a mixing chamber and having jet forming means at the upper end of said mixing chamber for forming one jet of water entering said mixing chamber. A gas passageway is provided leading into the mixing chamber and the jet of water is operative to suck ozone-containing-air into the mixing chamber. A plurality of perforated plates is provided in the path of the jet of water for effecting mixing of the water and ozone-containing-air prior to the issuance of the mixture from the lower end of the device.

7. The device of the British Felten patent No. 6012 is also shown in United States patent No. 1,090,044 to Fuss. Figure 8 of the Fuss patent shows the water system of a dwelling or building having faucets equipped with the Felten type mixer at the ends thereof. Fuss expressly discloses using the Felten type mixer on the faucets of the water system of a building, and in domestic or household water systems in general.

(88):

8. The prior art patent of Hyatt (U.S.) 326,221 of 1885 is entitled "Art Of Purifying Water". The specification states that the apparatus is one "whereby air may be intimately combined with the water". In Figure 5 of Hyatt there is disclosed a casing defining a mixing chamber and having a jet forming means at the upper end of the mixing chamber through which a single jet of water enters. An air inlet opening is provided in the side of the casing through which air is sucked into the mixing chamber by the movement of the jet of water therethrough. There is provided a plurality of screens, specifically five in number, in the path of the water for effecting a mixing of the water and air so as to aerate the water. Although Figure 5 also shows baffles in the casing disposed below the screens, the specification states that the screens alone may be used if desired.

9. Hyatt discloses in his patent a number of devices (including a bed of gravel or stone, screens, and deflecting plates) either singly, or in combinations of two or three of such devices, to effect mixing of water and air. Hyatt thus discloses "proportioning" by selective use of one, two or three resistances to effect the desired result of obtaining an intimate combining of water and air.

(89):

10. Hyatt shows the use of his aerating structure in a system for purifying water, and the aerated water of Figure 5 is taken from the aerating apparatus into a filtering apparatus. Aghnides in his Belgian patent, Plaintiff's Exhibit 13, and in his abandoned United States application, Serial No. 52,923, from which patent 2,210,846 stemmed, both disclose the use of Aghnides' aerator in a system wherein aerated water is taken from Aghnides' device, after the device has mixed the water and air, and is led into

a water softening apparatus before being discharged for ultimate use. In Hyatt, water and air, after being mixed passes into a filterer—and that is structure wise no different than in Aghnides, where water and air, after being mixed, passes into a softener before being discharged for ultimate use.

11. The prior art Solomon British patent No. 405,316 discloses a device for aerating a liquid. Solomon provides a casing arranged to define a mixing chamber which has jet forming means at the upper end of the mixing chamber and air inlet means in the walls of the casing leading into the mixing chamber. Positioned in the mixing chamber are pegs upon which the jets of liquid impinge to effect a break-up of the liquid and intimate mixing of the liquid with air that is sucked into the mixing chamber by the movement of the lquid jets through the mixing chamber. An aerated mixture of liquid and air issues from the lower end of the solomon device.

(90):

12. Solomon disclosed three forms of his device. A comparison of Figures 2 and 7 of Solomon show different spacings between the jet forming means and the pegs upon which the jets impinge, and also show pegs of different diameters. These variations illustrate proportioning as disclosed in the Solomon patent.

13. The Solomon aerator is described with specific application to the nozzle of a beer tap. The Aghnides abandoned application, Serial No. 52,923, of which the application of the patent in suit, No. 2,210,846, was a continuation, describes the Aghnides mixing device as applicable for "drawing off beer". Aghnides' British patent 468,687, which Plaintiffs allege is the British counterpart of United States Patent 2,210,846, states that another practical application of the Aghnides device is "in drawing off beer".

There is no difference structure wise in a device for mixing water and air and a device for mixing beer and air. The Aghnides' patent may be used for either.

14. Aghnides, in his British patent 468,687 issued July 6, 1937, acknowledged that the device shown in Solomon 405,316 was a "liquid aerating device", by providing in the specification of said British patent a word picture of a prior aerating device, which word picture precisely describes Solomon. Aghnides thus admitted the prior British patent to Solomon as prior art, relating to a "liquid aerating device", and the Aghnides' patent 2,210,846 is entitled "Fluid Mixing Device". A "liquid aerating device" is the same as a "Fluid Mixing Device" and both relate to the same field of endeavor or art.
(91):

15. The prior art British patent to Battersby No. 323,242 issued December 30, 1929 is entitled "Improvements Relating To Apparatus For Aerating And Blending Liquids". Battersby provides an aerating device; and as to one form of such device, it is adapted to be attached to any ordinary domestic water tap for household use. The Battersby device includes a casing defining a mixing chamber and having jet forming means forming a single water jet at the upper end of the mixing chamber. Air inlet openings are provided in the casing through which air is sucked into the mixing chamber by the movement of the jet of water there through. A selectively adjustable "flow adjuster" is provided in the path of the jet of liquid for effecting break up and mixing of the water with the air that is sucked into the mixing chamber by movement of the jet of liquid through the mixing chamber.

The outlet end of Battersby is provided with "*any form of anti-splash device*". (Page 3, line 85).

16. The adjustable "flow adjuster" is for the purpose of "proportioning" the resistance to the flow of the jet, and proportionately breaks up the jet, more or less, as desired by the user of the device.

(92):

17. Typical anti-splash devices in existence at the time of the Battersby (British) patent 323,242 are shown in Vielliard (British) patent No. 12,345 of 1898, and Purser (British) patent No. 136,633 of 1919. The Vielliard and Purser anti-splash devices are designed for use on domestic and other taps to provide a regular (coherent), non-splash stream. The substitution of either the Vielliard or Purser anti-splash devices for the "form of anti-splash device" shown in Battersby produces a combination wherein the functions of both devices are combined, the Battersby portion providing aerated water from a domestic tap, and the anti-splash device providing that the aerated water from the domestic tap issues as a splashless coherent stream.

As to whether the word "form" in Battersby means a general type of anti-splash device or a very specific form or design is immaterial, since it would not constitute invention to substitute the type, form, or design of anti-splash device as shown in Vielliard British patent, or Purser British patent, for the type, or design, of anti-splash device shown in Battersby.

(93):

18. The prior art United States Aghnides' patent 1,912,113 issued May 30, 1933, and its British counterpart No. 375,066 dated June 23, 1932, are directed to a device for mixing water and air. In the path of the water and air which passes through the mixing device of these patents, there is an onion-shaped member. Below the onion-shaped member, and at the lower end of the device, there is a

constricted outlet which may be equipped with one or more wire gauze members which act as an anti-splash device. The device of this patent is for sucking air from a closed chamber. As to whether air is taken from all out doors or from a closed chamber is never known by the device mixing the air and water. In both cases the flow of water at high velocity induces air to be sucked in, and in both cases the water and air mix and are then discharged. The proportion of water to air or air to water may vary, but the varying of such proportion is not invention and is merely a matter of degree and within the skill of one in the calling.

(94):

19. The prior art United States patent to Ferguson No. 591,830 of 1897 is entitled "Apparatus For Mixing Liquids And Gases". Ferguson discloses a device for discharging a quiet (non-splash), non-spraying (coherent), bubbly, flow of water.

Ferguson discloses a casing and structure which encloses a mixing chamber for water and gas. Water is injected into the mixing chamber in an annular jet and this causes sucking of gas into the mixing chamber to effect a mixing of water and gas. Ferguson discloses that the mixture of water and gas would normally issue as a fine spray; but Ferguson wants to discharge the bubbly water in a quiet stream. Accordingly, Ferguson provides structure for collecting the fine spray of water and gas and then passes the mixture of water and gas first through a perforated member and then through a restricted discharge nozzle to cause the issuance of a quiet (non-splash), non-spraying (coherent), bubbly stream.

20. Ferguson teaches proportioning of orifice sizes to "*regulate easily the relative proportions of admixed liquid and gas*". (Page 1, lines 48-53).

(95):

21. The prior art United States patent to Claflin No. 881,548 discloses a device for mixing water and air. The Claflin device is shown in Figure 6 of the patent for use at the end of a faucet located in a dwelling or building. When the Claflin type faucet is performing its ordinary function of supplying water, a flow of air is induced by the flow of water therethrough and the air and water pass together from the outlet of the device. The particular means in Claflin for effecting mixing of the water and air is a converging-diverging type nozzle located between the inlet and outlet ends of the device. The outlet end of the Claflin faucet is provided with a pair of screen members and a converging nozzle therebelow.

In the abandoned Aghnides United States application, Serial No. 52,923, of which the application of the patent in suit No. 2,210,846 is a continuation, there is shown and disclosed in Figure 2 a converging-diverging type mixing nozzle for the water and air located between the inlet and outlet ends of the device, in the same fashion as shown in the Claflin patent. When Aghnides filed his original U. S. application for patent, from which stemmed patent 2,210,846, he disclosed to the Patent Office a number of equivalent structures, and the said Figure 2 of his now abandoned application, Serial No. 52,923, is thus equivalent to the devices for mixing water and air that he now shows in his patent No. 2,210,846. Figure 2 of the now abandoned application, Serial No. 52,923, is fully anticipated by the disclosure of the prior art Claflin patent.

(96):

22. The prior art United States patent to Lockwood 1,195,044 shows a device for mixing liquid and gases. The particular apparatus for effecting mixing of liquid and gases is shown in Figure 2 and includes a casing defining a

mixing chamber and having jet forming means at the upper end of the mixing chamber. There is also provided a set of three vertically stacked conical deflectors for effecting mixing of the liquid and gas. The lower end of the casing is provided with a constricted throat through which the mixture of liquid and gas passes.

In the abandoned Aghnides application, Serial No. 52,923, of which the application of the patent in suit No. 2,210,846 is a continuation, there is shown and disclosed in Figure 3 an apparatus for effecting mixing of liquid and gas which includes a vertically arranged stack of three conical nozzles arranged in substantially the same manner as shown in the Lockwood prior art patent, Figure 3 of said application, Serial No. 52,923, at the time of the filing by Aghnides in the United States of his original application was disclosed to be the equivalent of what is now claimed by said patent No. 210,846. Figure 3 of the now abandoned application, Serial No. 52,923, is anticipated by the disclosure of the prior art Lockwood patent.

23. The concept of proportioning the various parts of an aerating device to obtain desired results is disclosed in the prior art patents of Hyatt, Solomon, Battersby and Ferguson. (See Findings of Fact Nos. 9, 12, 16 and 20.) (97):

24. Plaintiff produced a model of the Felten device and tested same in open Court. The complete Felten model produced a coherent aerated stream. The issuing stream was white in appearance, emerged in a popular coherent column, and did not splash. There were air bubbles in the issuing stream.

Plaintiff produced a model of Aghnides 1,912,113 and when tested it discharged a regular, coherent, non-splash column, whitish in appearance, and containing air bubbles therein.

Plaintiff produced a model of Battersby and when tested in open Court it produced an aerated stream of water which was whitish in appearance and contained air bubbles therein.

25. The device charged to infringe is in the record as Plaintiff's Exhibit 19 and is illustrated in Plaintiff's Exhibit 34. The device charged to infringe effects a mixing of water and air by means of a solid onion-shaped member against which jets of water are directed.

The screen at the lower end of the casing of the device charged to infringe does not operate to effect an additive mixing of water and air, but rather operates to reduce the amount of air that is mixed with the water which passes therethrough.

(98):

26. Insofar as the accused device uses a solid onion-shaped member, against which the water is dire ted, to effect a mixing of water and air, the accused device is like and follows the prior art which includes:

(a) the disclosure in Battersby which uses a solid peg member, against which the water is directed, to effect the mixing of water and air;

(b) the disclosure in Solomon which uses four peg members, against which the liquid is directed, to effect the mixing of liquid and air; and

(c) the disclosure in Aghnides (U. S.) 1,912,113 which uses an onion-shaped member, against which the water is directed, to effect the mixing of water and air.

27. The two Aghnides patents here in suit have been before this Court in the case of Aghnides v. The Meyer's Company, 99 USPQ 335. In that suit this Court entered the following, in Finding XXIX:

> • • • the Defendant offered no evidence in support of its defense, did not cross-examine any witnesses, and entered no motions • • •

The device which was involved in the previous *Meyer's* case is in evidence as Defendant's Exhibit 38. The accused device in the *Meyer's* case utilized therein "resistance screens" to effect the mixing of water and air.

(99):

28. The Aghnides patent 2,210,846 has previously been involved in a suit entitled *Aghnides* v. *Goodrie et al*, 7 Cir., 210 F.2d 859. In the *Goodrie* case the Court of Appeals of the Seventh Circuit found patent 2,210,846 to be invalid. The device which was charged to be an infringement in the *Goodrie* case, is in evidence here as Defendant's Exhibit 39, and is illustrated in Defendant's Exhibit 40. The accused device in the *Goodrie* case utilized therein an onion-shaped member, against which the water was directed, to effect the mixing of water and air.

In its decision in the *Goodrie* case, the Court of Appeals of the Seventh Circuit said, 210 F.2d 859, at page 863:

> "If for the moment we indulge the presumption of validity, we think Aghnides' claims must be very narrowly construed and limited to the specific structure disclosed by him. Consequently, defendants, who do not employ the same structure, but prescribe a different means for separating the incoming water into jets, does not infringe."

(100):

29. Structurewise, the internal physical structure of the accused device herein (Plaintiff's Exhibit 19), bears a much closer resemblance to the internal physical structure that was before the Seventh Circuit in the *Goodrie* case (Defendant's Exhibit 39), than it does either to the internal physical structure of Plaintiff's commercial device, (Plaintiff's Exhibit 29), or to the internal physical structure of

the device involved in the *Meyer's* case (Defendant's Exhibit 38), or to the internal physical structure shown in the figures of Patent No. 2,210,846.

The accused device herein does not employ resistance screens for the purpose of breaking up and effecting an additive mixing of water and air as is disclosed and claimed in patent No. 2,210,846. The accused device uses a different means for effecting mixing of water and air. The accused device includes a solid onion-shaped member against which jets of water are directed for effecting the mixing of air and water, and in that respect the accused device follows Solomon or Battersby and differs from the resistance screens disclosed in the patent in suit.

(101):

30. Each of Claims 1-4 of Aghnides 2,210,846 specifies "resistance" for mixing the water with air. Consequently throughout the specification of patent 2,210,846 the word "resistance" is used in conjunction with the word "screen". The word "resistance" is never used in the description of the device shown in Figure 6 of patent 2,210,846. The word "resistance" is never applied to, or used in conjunction with, the description of the devices shown in Figures 5, 6, 7 and 8 of patent 2,210,846.

Claims 1-4 of Aghnides 2,210,846 are limited to constructions which include "resistance-screens" for effecting the mixing of the water and air. Hence, Claims 1-4 of Aghnides 2,210,846 do not read on Figure 6 of the patent.

The Plaintiffs assert that the structure of the accused device is closest to the structure shown in Figure 6 of the patent. Since Claims 1-4 of the patent do not read on Figure 6 thereof, then said Claims also fail to read on the accused device.

31. The Claims of Aghnides 2,210,846, are limited to the use of resistance-screen elements for effective additive mixing of water and air. The accused device does not

employ resistance-screens for the purpose of effecting additive mixing of water and air. The accused device uses an onion-shaped member for such additive mixing of water and air. Hence, there is no infringement of the Claims of 2,210,846.

(102):

32. Devices for mixing together water and air, or liquid and gas, so as to achieve a flow of bubbly mixture were known prior to Aghnides' earliest claimed date of invention. Such devices are shown in the prior art patents of Felten, Solomon, Battersby, Aghnides (1,912,133) and Claflin.

Devices for attachment to taps or faucets for regulating the flow of water or other liquids so as to form a regular (coherent) column which does not splash were known prior to Aghnides' earliest claimed date of invention. Such devices are shown in the prior art patents of Vielliard and Purser.

33. Devices for mixing water and air, or liquid and gas, together so as to achieve a flow of bubbly mixture, in combination with an anti-splash device—or means for obtaining a quiet non-splash discharge of said mixture—were known prior to Aghnides' earliest claimed date of invention. Such devices are shown in the prior art patents of Felten, Battersby, Claflin, Ferguson, Aghnides (1,912,113), and Hyatt.

34. In view of the state of the prior art it was not invention for Aghnides to combine a device for mixing water and air, to achieve a bubbly stream, with a device for forming a regular non-splash column, particularly since such a combination of elements was either taught or disclosed by the prior art patents of Felten, Battersby, Ferguson, Aghnides (1,912,113), Chaflin and Hyatt.

(103):

35. The state of the prior art was such at the time of Aghnides entry into the field that any skilled delver in the art of mixing liquids and gases could have built Aghnides' device, and Aghnides did not achieve invention but accomplished the result of a skilled mechanic.

36. All of the prior art references herein relied upon by Defendant, except Felten, were not before the Examiner in the Patent Office during the prosecution of the application resulting in patent 2,210,846. Patent 2,210,846 is not entitled to a presumption of validity because the art here relied on was not before the Examiner or the Board of Appeals of the Patent Office.

(104):

37. Figure 6 of patent 2,210,846 was first disclosed in the United States on December 31, 1937. Figure 6 of patent 2,210,846 was not disclosed or shown in Aghnides Belgian patent or Aghnides abandoned United States patent application, Serial No. 52,923.

Aghnides British patent 468,687 contains a disclosure in words of the same subject matter shown and disclosed by Figure 6 of patent 2,210,846.

The word disclosure reads as follows:

> "It has been proposed to provide a liquid aerating device comprising a tubular member having a lower hollow part and a relatively solid upper part in which were arranged liquid passages alternating with short passages communicating with atmosphere at the sides of the device, whilst the lower hollow part supported a number of pegs below and transverse to the liquid passages."

As to whether such word disclosure is descriptive of the Solomon British patent No. 405,316 or is a description of Figure 6 of patent 2,210,846 is immaterial. Both are the same. The word disclosure is in a prior patent by

Aghnides, which was filed in a foreign country more than twelve months before the disclosure to the U. S. Patent Office, and it issued prior to disclosure to the U. S. Patent Office.

The Aghnides British patent issued July 6, 1937 before the filing date and disclosure of Figure 6 of patent 2,210,846 on December 31, 1937, and said British patent was based on an application filed more than twelve months prior to the filing date of Figure 6 of patent 2,210,846.

Under the provisions of R.S. 4887, 35 U.S.C. § 102 (d), Figure 6 of 2,210,846 could not validly be patented. Figure 6 of 2,210,846 is closest to the accused device. If the claims of patent 2,210,846 are construed to read on Figure 6 then the patent is invalid. If the claims of 2,210,846 are not construed to read on Figure 6 thereof, then there is no infringement of the patent by the accused device.

(105):

38. Figure 8 of patent 2,210,846 is now concededly old and unpatentable. Positive written statements in the file wrappers of the abandoned United States patent application Serial No. 52,923 and of patent 2,210,846, and written statements in the specification of patent 2,210,846 and written statements to the Board of Appeals, all show that both Aghnides and the Patent Examiner considered Figure 8 to be a form of the claimed invention. The Patent specification and file wrappers so state. When patent 2,210,846 issued in 1940, it contained Figure 8 and the claims applicable thereto, as asserted by Aghnides all through the years that such application was pending, and the device of Figure 8 has been held out to the public, continuously since 1940, as being covered by the claims of 2,210,846.

At no time did Aghnides make any attempt to amend or correct patent 2,210,846 in the manner as provided for by statute, either by way of Reissue (35 U.S.C. Patents 1952 § 251), Disclaimer (35 U.S.C. Patents 1952 § 253) or Cer-

tificate of Correction (35 U.S.C. Patents 1952 § 254 and § 255).

39. It would require experimentation to achieve the results which allegedly are disclosed in 2,210,846. There are no critical limits set forth in 2,210,846 since one who is making a device in accordance therewith can start with one screen, and then add a second, third, or fourth, as desired, to achieve the results sought. Accordingly, patent 2,210,846 is void for non-disclosure.

(106):

40. All commercial devices sold by licensees of Aghnides included the alleged improvement features of patent No. 2,316,832. There is no commercial success attributable to patent 2,210,846.

41. The Aghnides patent 2,316,832 is directed merely to an improvement over the earlier Aghnides patent 2,210,846. The alleged improvement in patent 2,316,832 over patent 2,210,846 lies in the addition of a "restricted orifice", "foraminous member", or "apertured diaphragm", or a combination of two such elements, upstream of the structure disclosed in patent 2,210,846.

The specification and file wrapper discloses that insofar as patent 2,316,832 is concerned, the words "restricted orifice", "foraminous member", and "apertured diaphragm", mean the same thing and can be applied to the same structure.

42. Aghnides first visited the United States in June 1937. At that time the only pending U. S. patent application was the later abandoned application, Serial No. 52,923. During 1937 he licensed certain manufacturers including The Chicago Faucet Company of Chicago under his then pending patent application Serial No. 52,923.

(107):

43. Prior to Aghnides' licensing of Chicago Faucet Company in 1937, The Chicago Faucet Company had been manu-

facturing and selling a faucet attachment known as the "Quixtop" device. The "Quixtop" device included a screen positioned across the discharge end of the faucet spout which was retained in position by a ring that was threaded to the inside of the faucet spout, the ring being of smaller internal diameter than the internal diameter of the faucet spout.

When The Chicago Faucet Company came on the market with their aerator licensed under Aghnides' then pending patent application, Serial No. 52,923, they retained their "Quixtop" device at the discharge end of their faucet spout and secured the Aghnides aerator to the lower end of the "Quixtop" device. The combination of the "Quixtop" device and the aerator made in accordance with Aghnides' then pending patent application results in a combination which anticipates each of the claims of patent 2,316,832.

44. Chicago Faucet Company produced from their books and records, kept in the normal course of business, drawings showing the initial construction of their aerator, purchase order records, and other pertinent records. These records of Chicago Faucet Company showed that parts were purchased, in quantities of more than 1,000 units for use in The Chicago Faucet aerator, and were on hand at The Chicago Faucet Company no later than February 15, 1938.

Advertisements taken from Domestic Engineering Magazine showed that The Chicago Faucet Company aerators were offered on sale as early as March 1938. Sales were proved as early as May 1938 and a shipment of an aerator to Aghnides was made as early as April 14, 1938. (108):

45. The filing date of the application resulting in patent No, 2,316,832 is April 5, 1940.

Aghnides did not produce a single document establishing a date of his invention, in the United States, of the device

shown in patent No. 2,316,832, earlier than the filing date of April 5, 1940.

The only testimony that Aghnides offered to overcome the earlier dates of knowledge, invention, sale or offer for sale in this country by The Chicago Faucet Company was his uncorroborated oral testimony that he disclosed the improvement of a restricted orifice to The Chicago Faucet Company in 1937, before he left this country in December, 1937.

The foregoing oral testimony of Aghnides was directly contrary to oral testimony he had previously given in a deposition taken on December 6, 1954.

The uncorroborated testimony of Aghnides is insufficient to establish a date earlier than his filing date of April 5, 1940.

Aghnides is limited to the filing date of April 5, 1940, as the earliest date of invention.

(109):

46. In attempting to carry his date of invention of patent No. 2,316,832 back to a date earlier than the earliest date of knowledge, or offer for sale, by The Chicago Faucet Company, Aghnides testified orally, and without corroboration, that in 1937 he brought to the United States a commercial device manufactured by his French licensee, which commercial French device included therein a restricted orifice as disclosed in patent No. 2,316,832.

Aghnides testified that he demonstrated the commercial French device in the United States in 1937.

If the French commercial device is usable and sufficient by Aghnides to carry his date of invention back of the dates proved by The Chicago Faucet Company, then it is likewise usable and sufficient to establish public use in this country more than two years prior to the filing date of April 5, 1940.

The demonstration of the commercial French device in 1937 was a public use that took place more than two years prior to the date of April 5, 1940, which was the filing date of the application resulting in patent No. 2,316,832.

(110):

47. The Solomon British patent 405,316 discloses that a First Provisional Specification No. 21,752/32 was filed August 3, 1932. A Second Provisional Specification No. 24,024/32 was filed on August 27, 1932 and described therein an improvement over the device disclosed in the First Provisional Specification.

Figures 1-5 of Solomon 405,316 shows the aerating device disclosed in the First Provisional Specification.

Figures 6-11 and 12-17 show two forms of improved devices disclosed in the Second Provisional Specification.

(111):

48. The improved forms of aerator in Solomon 405,316 differ from the basic form of aerator disclosed therein, in the same features that the Aghnides' second patent (No. 2,316,832) differs from Aghnides' first patent 2,210,846.

In the improved aerator forms shown in Figures 6-11 and 12-17 of Solomon, there is shown an aerator structure corresponding to the basic form of aerator shown in Figures 1-5 of Solomon, and in addition there is provided an anti-drip valve construction upstream of the basic aerator construction. The anti-drip valve construction includes a disc member having a restricted orifice therethrough and a valve member positioned below the restricted orifice.

When the valve member is depressed, as it would be when liquid is flowing through the device, then the valve member cooperates with surrounding casing structure to define an annular orifice, or aperture, upstream the basic aerator construction and below the aforesaid restricted orifice. This arrangement is shown in Defendant's Exhibits 44-10-B and 44-10-C.

The improvement construction in Solomon 405,316 completely anticipates the structure in Aghnides patent 2,316,832 which is alleged to be an improvement over the earlier Aghnides patent 2,210,846.

(112):

49. In Plaintiff's Exhibit 33, Plaintiffs apply Claim 1 of 2,210,846 to the accused device which is there illustrated, and read the phrase *"a diaphragm at the upstream end of the chamber"* on the disc 36.

The improvement of the second Aghnides' patent over the first Aghnides' patent requires additional structure which provides a "restricted orifice", "foraminous member" or "aperatured diaphragm", located upstream, or above, the *"diaphragm at the upstream end of the chamber"*.

In the illustration of the accused device in Plaintiff's Exhibit 33, there is no structure of the accused device there shown which provides a "restricted orifice", "foraminous member" or "aperatured diaphragm", located upstream, or above, the disc 36, which Plaintiffs have identified as the *"diaphragm at the upstream end of the chamber"*.

The claims of the second Aghnides' patent, therefore, cannot be read on the accused structure illustrated in Plaintiff's Exhibit 33, because there is no additional structure there illustrated which responds to the requirement of the second patent that said additional structure be located upstream, or above, the *"diaphragm at the upstream end of the chamber"*.

(113):

50. The adapter that is sold with the accused aerator serves only to modify existing faucets so as to provide screw threads to which the aerator may be connected. The adapter is not necessary or essential to the aerating operation of the accused device. Plaintiff's Exhibit 34 states that the adapter is unnecessary and should not be used

with faucets already having screw threads of the correct size for direct attachment of the aerator.

However, the additional structure which is the alleged improvement of the second Aghnides' patent over the first Aghnides' patent is necessary and essential to the operation of Plaintiff's commercial device.

The adapter of the accused device differs both in purpose and function from the alleged improvement of the second Aghnides' patent. The claims of the second Aghnides' patent 2,316,832, therefore, do not read on the accused aerator in combination with the adapter with which it is sold.

(114):

DEFENDANT'S CONCLUSIONS OF LAW

1. The Court has jurisdiction of this cause.

2. Each of Claims 1-4 of Aghnides patent 2,210,846 are anticipated by the prior art patents of:

Felten (British)	26012 of 1909
Hyatt (U. S.)	326,221
Ferguson (U. S.)	591,830
Claflin (U. S.)	881,548
Lockwood (U. S.)	1,195,044
Aghnides (U. S.)	1,912,113
Battersby (British)	323,242, and
Solomon (British)	405,316

and said claims are invalid in view thereof.

3. The device disclosed in Aghnides patent 2,210,846, its purpose, use, and function are anticipated by the combination of prior art patents of:

(a) Battersby (British) 323,242, and
Vielliard (British) 12,345 of 1898
or Purser (British) 136,663 or

(b) Solomon (British) 405,316 and
Vielliard (British) 12,345 of 1898
or Purser (British) 136,663,

and said Claims are invalid in view thereof.

4. Aghnides patent 2,210,846 is invalid in view of the statutory provisions of R.S. 4887, 35 U.S.C. Patents (1952) § 102(d), and in view of the disclosure in Aghnides' (British) patent 468,687 which issued prior to the filing date of Figure 6 of patent 2,210,846 on an application filed more than twelve months prior to December 31, 1937, which is the filing date of Figure 6 of patent 2,210,846.

(115):

5. Aghnides patent 2,210,846 is invalid for "non-disclosure" in view of the statutory provisions of R.S. 4888, 35 U.S.C. Patents (1952) § 112.

6. The Aghnides patent 2,210,846 is invalid because the claims thereof read on the form of device shown in Figure 8 thereof, which device of Figure 8 is admittedly old in the prior art.

7. The Aghnides patent 2,210,846 is invalid because the state of the prior art as set forth above in Conclusion No. 2, of which he was bound to take notice, was such that any skilled delver in the art of mixing gases and liquids could have built Aghnides' device, and, therefore, Aghnides did not achieve invention but accomplished the result of a skilled mechanic.

8. Claims 1-4 of Aghnides patent 2,210,846 are not infringed by the accused device.

9. Each of the Claims 1-4 inclusive, of Aghnides patent 2,316,832 is invalid in view of the statutory provisions of R.S. 4886, 35 U.S.C. Patents (1952) § 102(a), because the alleged invention of patent 2,316,832 was known and used by The Chicago Faucet Company in this country before the earliest date of invention thereof proved by Aghnides.

(116):

10. Each of the Claims 1-4, inclusive, of Aghnides patent 2,210,846 is invalid in view of the statutory provisions of R.S. 4920, 35 U.S.C. Patents (1952) § 102(g), since The Chicago Faucet Company was the first inventor in this coun-

try of a device upon which the claims of patent 2,316,832 read, and which device of The Chicago Faucet Company was neither abandoned, suppressed, or concealed.

11. Each of Claims 1-4, inclusive, of Aghnides patent 2,316,832 is invalid in view of the statutory provisions of R.S. 4886, 35 U.S.C. Patents (1952) § 102(b) in view of the offer for sale by The Chicago Faucet Company, in March 1938, more than two years prior to the filing date of April 5, 1940, of devices embodying the subject matter of the claims of patent 2,316,832.

12. Each of Claims 1-4, inclusive, of Aghnides patent 2,316,832 is invalid in view of the statutory provisions of R.S. 4886, 35 U.S.C. Patents (1952) § 102(b) in view of the public use of devices allegedly embodying the invention of patent 2,316,832, by Aghnides while he was in the United States between the dates of June and December, 1937.

13. Each of Claims 1-4, inclusive, of Aghnides patent 2,316,832 is anticipated by the prior art patent of Solomon (British) 405,316, and said claims are invalid in view thereof.

(117):

14. The Aghnides patent 2,316,832 is invalid because the state of the prior art, of which he was bound to take notice, was such that any skilled delver in the art of mixing gases and liquids could have built Aghnides' device, and, therefore, Aghnides did not achieve invention but accomplished the result of a skilled mechanic.

15. Claims 1-4, inclusive, of the Aghnides patent 2,316,832 are not infringed by the accused device.

(Western Union Telegram)

P B 113 (48)

1955 Oct 7 AM 8 56

P WY 004 DL PD—NSH New York NY 7 845 AME—
Will Freeman and Norman Lettvin Esqs—
Bair Freeman and Molinare 1400 Field Bldg
135 South La Salle St Chgo—

RE AGHNIDES ET AL VS KRESS. YOU INSTRUCTED DISMISS COUNTERCLAIM AND WITHDRAW DEFENSE OF MISUSE AND DEFEND OUR CASE ON BASIS OF NON-INFRINGEMENT AND INVALIDITY OF PATENTS—

S. H. Kress and Co—
Received Oct 7—1955 10:15 a.m. Bair, Freeman & Molinare.

(Letterhead of S. H. Kress & Co.)

October 7, 1955

Will Freeman and
Norman Lettvin, Esqs.
Bair, Freeman & Molinare
1400 Field Building
135 South La Salle Street
Chicago 3, Illinois

Re: Aghnides et al v. Kress

Gentlemen:

This is to confirm telephone conversation between Mr. Freeman and Mr. Lettvin of your firm and Mr. Wiggins and writer representing S. H. Kress and Company, wherein we instructed your firrm to dismiss the counterclaim

and withdraw the defense of misuse in the above entitled action and to defend our case on the grounds of non-infringement and invalidity of patents.

Yours truly,
S. H. Kress & Co.
E. M. Taylor
E. M. Taylor
Legal Division

Special Delivery—Air Mail
EMT/L

(119):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

NOTICE OF MOTION

To: Albert R. Ely, Esq.,
E. R. Hamilton, Esq.,
Ely, Frye & Hamilton
Akron, Ohio
and
R. Morton Adams, Esq.,
Thomas F. Reddy, Jr., Esq.,
Pennie, Edmonds, Morton,
Barrows & Taylor
New York, New York
Attorneys for Elie P. Aghnides and Chase Brass & Copper Co., Inc.

Please Take Notice that we have this day forwarded to the Clerk of the United States District Court at Greensboro, North Carolina, the attached Motion to Reopen for Additional Proofs, together with the papers referred to in the Memorandum in support of the Motion, for presentation to Judge Johnson Hayes.

January 24, 1956 Norman Block

(120):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

MOTION TO REOPEN FOR ADDITIONAL PROOFS

Comes now the attorneys for Defendant, and move to reopen this cause for additional proofs to show (a) that the Aghnides earliest invention date as to United States Patent 2,210,846 is December of 1937, and (b) that his testimony carrying his date back to the Belgium Patent 406,702 filed December 8, 1934 and granted on January 31, 1935 is false.

Norman Block
Attorney for S. H. Kress & Company

Will Freeman
Of Counsel

In support of the foregoing Motion, there is filed herewith the following Memorandum. Counsel respectfully requests permission to argue this Motion orally.

Will Freeman

(121):

MEMORANDUM

The additional proofs relate to the patent representations made by Aghnides to this Court in the instant case and likewise in the Meyer's case, and the directly contrary representations made to the Canadian Patent Office in connection with his Canadian Patent 490,112.

The Canadian Patent contains the identical five claims as found in his United States Patent 2,210,846.

The Findings in the Meyer's case was entered by this Court on November 12, 1953, and later this Court wrote an opinion filed on January 20, 1954. Finding No. 10 in the Meyer's case reads as follows:

"X. The basic invention of Patent No. 2,210,846

was disclosed in applicant's Belgian Patent 406,702 filed in Belgium December 8, 1934. The first application for patent in the United States was filed December 4, 1935 as Serial No. 52,923. During the pendency of the said application Serial No. 52,923, the application on which the patent in suit issued was filed December 31, 1937, Serial No. 182,884, as a continuation of application Serial No. 52,923, whereupon application of No. 52,923 was abandoned." (Aghnides *v.* Meyer's Co., 99 USPQ 335)

This Court, in its opinion based upon the representations made to it in the Meyer's case, said: (122):

"The basic patent, 2,210,846, dates back to December 8, 1934, having been field by plaintiff in Belgium where he then resided. The application in this country was filed December 31, 1937 as a continuation of one filed December 4, 1935."

This statement by the Court, and Finding No. 10 in the Meyer's case, are in direct conflict with Aghnides' statement and representations made to the Canadian Patent Office, wherein on May 5, 1947 he stated:

"There is an important fact to remember, however; the said Belgian 1934 application *did not* disclose fully the bubbly-stream principle disclosed in Holland, Sweden, the United States patent No. 2,210,846, the instant Canadian case and British Specification No. 625,084.

"It is only in December 1937 that the ways and means of making a bubbly-stream were disclosed when the United States text (application No. 182,884) was rewritten, although the Convention Belgian application did mention the emulsion of air in a water stream.

"Therefore, the priority claims in the present case are correct and support properly the instant disclos-

ure: it is the Belgian Convention which, in the United States patent No. 2,210,846 confuses the issue because, actually, said Belgian case does not teach the bubbly-stream as it is known to-day." (Emphasis Aghnides.)

And again on October 28, 1952 stated:

"Belgian Patent No. 406,702 does not describe the bubbly stream as disclosed in the present case and consequently cannot be opposed to the present application."

(123):

Incidentally, on November 13, 1951 between the two dates referred to in connection with the representations made to the Canadian Patent Office, a representation was made to the District Court in Chicago as to present Patent No. 2,210,846 as follows:

"At the time he made this invention he was living in Brussels and was engaged in hydraulic engineering pursuits for which his education and ability had fitted him. He perfected the invention in Belgium and applied for a Belgian patent on December 8, 1934. He had considerable acceptance of his invention in Europe and made his first application for patent in this country on December 4, 1935.

"Under the so-called International Convention, he is entitled to December 8, 1934, the date of his filing in Belgium, as the date of his invention in this country."

In the instant case Patent No. 2,210,846 was represented from the Opening Statement on through the close of the trial—three different sessions covering a period of about eleven months—*that it dates back to the Belgian Patent filed in December*, 1934.

Throughout the trial—notwithstanding a rather vigorous cross-examination of Aghnides, he constantly and repeat-

edly testified that the Belgian Patent 406,702—the British Patent 468,687—and his United States Patent No. 2,210,846 were one and the same as to principle, mode of operation, (124):

function and result, and that each was the equivalent of the other. When British Patent 468,687 was offered in evidence by Defendant's counsel, it was objected to because it was not prior art and filed within the Convention.

"Mr. Ely: I certainly don't see the purpose of that, Your Honor. This man's British patent is on file within the date of the convention. I don't see what it's all about." (Transcript, P. 179)

Aghnides time and again testified that United States Patent No. 2,210,846 was based on the Belgian Patent 406,702 filed in December of 1934.

"Q. Can we agree that the disclosure corresponding to Figure 6, where you have inwardly projecting projections from a shoulder—and I'm not raising any question about terminology—that Figure 6 is shown for the first time in your United States application filed on December 31, 1937?

A. Figure 6 as is shown there, correct, in that form.

"Q. And it was not shown in the original application that you filed in the United States on December 4, 1935?

A. The figure as is there was not shown, *but my Belgian application, on which the American application was based,* stated that baffles are in the path of the water, or screens; so these are baffles.

"Q. Will you agree with me that the Belgian patent did not show any counterpart or any figure corresponding to Figure 6?

A. Not exactly to Figure 6, no, but it explained that it could strike plain surfaces, which is baffles.

(125):

"Q. Can we also agree that the British patent number 468,687, Defendant's Exhibit 14, does not show any figure corresponding to Figure 6?

A. No, it does not show; those drawings do not show a figure corresponding to Figure 6 of my U. S. patent.

"Q. And is it not true that the Belgian patent does not show any figure corresponding to Figure 6?

A. No, but the specification states, though, it could be baffles, and shows the preferred form of resistance, which is screens." (Emphasis Ours) Transcript, P. 794-5.

There is no question but what counsel for both sides conducted the case on the basis that Aghnides claimed the Belgian Patent 406,702, British Patent 468,687 and United States Patent 2,210,846 were all one and the same as to *date of invention*, and that the structure here involved of Patent No. 2,210,846 was shown in the Belgian Patent 406,702 and the British Patent 468,687.

"Q. But we can agree that there are no drawings in your British patent, as well as your Belgian patent, showing inwardly extending projections or shoulders as we find in Figure 6 of your U. S. patent?

"Mr. Adams: Which British patent?

Mr. Freeman: The British patent that has to do with the structure here involved. It is number—

Mr. Adams: 468,687?

Mr. Freeman: That's right.

"A. I would, however, say that in Figure 5 of this British patent here, which is, I believe, the same as the corresponding figure of the Belgian application, we see that the orifice through which the water comes out the perforated plate 5 is above the shoulder, so

the water might very well strike before getting to the screens and be partly broken up.

(126):

"Q. Now do you find in Figure 5 a structure corresponding to projections that extend inwardly from the walls of the mixing chamber, or the tube which forms the mixing chamber?

A. Yes, I find there walls projecting inwardly, above which are some of the orifices in the perforated disc 5.

"Q. Will you state now that you rely on Figure 5 of either your British patent or your Belgian patent as a basis for the disclosure of Figure 6 in your patent number 2,210.846, filed December 31, 1937?

"Mr. Adams: May I ask what you mean by 'rely'? Do you mean as a matter of law, or the immediate disclosure; which are you talking about?

Mr. Freeman: The immediate disclosure. I'm not trying to get into any law questions with Mr. Aghnides.

"A. Well, that Figure 6 is in accordance with the disclosure made in my Belgian patent, which is speaking of baffles and which also shows in Figure 5 a stream which could strike first an inclined surface before reaching the screens. It is not an exact duplicate, but according to the same principles.

"Q. In other words, for the purpose of establishing Figure 6, which has an inwardly extending shoulder or projections, Figure 5 is the closest, or at least approximates in structure and function, that which is called for in Figure 6?

A. It is the same idea, yes." (Transcript, PP. 796 and 797.)

Aghnides' testimony as to the Belgian Patent 406,702, the British Patent 468,687 and their relation to United

States Patent 2,210,846 was so emphasized by him that the Court at Page 798 of the Transcript said:

"The Court: Didn't you go over all of that on your cross-examination previously?"

(127):

With the hedging and devious explanations apparent from the completed testimony of Aghnides, counsel for Defendants became suspicious at the close of trial that there was something in the wood pile other than just wood, and began some searching for information in foreign countries involving the Aghnides patents—a procedure *not* normally taken in a patent case.

Such search by Defendants now discloses a file wrapper history of Canadian Patent 490,112, which has some startling and revealing statements that make the testimony by Aghnides false before this Court, and the representations by counsel for Aghnides as to the Belgian and British patents erroneous. We are not charging that any of the Aghnides' or Chase's counsel in this case knew of the Canadian patent and its file wrapper history, where Aghnides definitely denies any *carry back of the subject matter of Patent No.* 2,210,846 *to either the Belgian Patent* 406,702 *or British Patent* 468,687.

When Aghnides was cross-examined in this case with respect to the British Patent 468,687, and testified that it was *the same invention* as United States Patent 2,210,846, *he then knew that he had presented factual information to the British Patent Office* that said British Patent 468,687 was *a different invention* than the structure now claimed

(128):

in Patent No. 2,210,846 and that disclosed in British Patent 625,084. The drawings of Canadian Patent 490,112 are *identical* to the drawings of British Patent 625,084. The Canadian Patent claims, *identical* to the claims of United

States Patent 2,210,846, must, of course, read on the British Patent 625,084 drawings, because as above stated, the drawings are *identical*.

Aghnides, in Canada, stated:

> "The same remarks apply also to the British Specification No. 468,687 which was filed December 4th, 1935, prior to the first disclosure of the bubbly-stream in United States, December 1937.
>
> "As a matter of fact, the British Examiner, during prosecution of British Patent No. 625,084, embodying the principle presently claimed, did oppose the Applicant's prior patent No. 468,687 as pertinent art. Upon presenting proper factual arguments, and submitting a model showing the differences between the two applications, the citation was withdrawn and patent No. 625,084 issued."

Aghnides, in the Canadian Patent Office, states flatly that his United States Patent 2,210,846 and British Patent 625,084 and his application resulting in his Canadian Patent 490,112 are *one and the same*. In his Canadian application he stated:

> "The foreign cases corersponding to the present application are as follows:
>
> U. S. Patent No. 2,211,846 issued Aug. 6th, 1940
> Dutch Patent Application filed June 22nd, 1939
> Swedish Patent Application filed June 26th, 1939
> British Patent No. 625,084 issued Sept. 6th, 1949"

(129):

The "Dutch Patent Application filed June 22nd, 1939", stated by Aghnides in Canada to correspond to his U. S. Patent 2,210,846 and his Canadian application resulting in Patent 490,112, issued as Dutch Patent 65,293 on March 15, 1950. The first seven figures of the Dutch Patent drawing are identical to the seven figures of Aghnides British Patent 625,084, and in fact the British Patent

625,084 is relied upon as a basis for an earlier priority date of invention as to Claim 1 of the Dutch patent.

Aghnides' Dutch Patent 65,293 includes seven figures in the drawing *identical* to the drawing of his Canadian Patent 490,112 and British Patent 625,084. In Canada, the Canadian, Dutch and British 625,084 Patents are stated under oath to be for the same invention as U. S. Patent 2,210,846, and the date of invention is December 1937. Despite this position taken by Aghnides in Canada, he states on the face of his Dutch Patent 65,293 that it is a *different* invention from his French Patent 800,069, which in turn is stated on its face to be for the same invention as the Belgian Patent 406,702 filed in December 1934. Before this Court, Aghnides has sworn that his U. S. Patent 2,210,846 and his abandoned application Serial No. 52,923 are for the same invention, and his date of invention is that of his Belgian Patent, December 1934.
(130):

It is very interesting that the drawings for the French Patent and the abandoned U. S. application are, however, *identical*. Thus Aghnides holds out to the public on the one hand that his Dutch Patent is the same as his U. S. Patent, but that it is different from his French Patent which has a drawing disclosure identical to the abandoned U. S. application upon which the U. S. Patent relies for its 1934 date of invention.

There can be no question but that the abandoned U. S. application Serial No. 52,923 is relied upon by Plaintiffs as teaching the same invention as both the Belgian Patent 406,702 and the U. S. Patent 2,210,846.

> "Mr. Ely: I want to introduce as Plaintiff's Exhibit No. 15 a certified copy of the file history of the abandoned U. S. application by Mr. Aghnides, Serial No. 52,923.

"Your Honor perhaps does not recall, but in the Meyers case it was brought out that Mr. Aghnides filed an application in this country within one year from the date of filing of the Belgian application. That was subsequently abandoned and the first patent in suit was filed in continuation of this abandoned application I have just offered. *So there is a continuity that goes all the way back to the filing date of Aghnides in Belgium, established through this abandoned application.*" (Emphasis ours.) (Transcript, P. 34.)

Again in the testimony of Aghnides:

"The Witness: I see Figure 1 of my abandoned application to be the same as Figure 1 and Figure 4 (131):

and Figure 2 of the application which matured into a patent, because they all show diaphragms with plurality of holes, they all show air inlets leading into the chamber below the diaphragm, and they all show screen means below the air inlets." (Transcript, P. 169.)

Equity does not demand that Aghnides shall have led a blameless life, *but it does require that Aghnides shall have acted fairly and without fraud or deceit as to the controversy in issue.*

Aghnides testified at length in this case—in the Meyer's case—and asserted that his invention date was the Belgian patent filing date—when at the time he testified he knew as a fact that *he had represented otherwise to the British Patent Office.* Such testimony was neither fair nor frank as required of one who seeks equity. He likewise knew at the time he testified that he had presented *contrary facts peculiarly within his knowledge* to the Canadian Patent Office, that Patent No. 2,210,846 was first invented when the text thereof was rewritten in December, 1937. Before this Court he asserts the invention date as being

three years earlier, to-wit: the filing dated of the Belgian patent—December, 1934. Withholding of facts having a direct bearing on the very issue involved constitutes "undisclosed facts" of the kind considered and condemned by the Supreme Court in the Precision Instrument case cited later herein.

(132):

Aghnides' Oath executed and sworn to by him in the United States on December 14, 1937 for United States Patent 2,210,846, and Aghnides' Oath executed and sworn to by him in the United States on May 7, 1947 for Canadian Patent 490,112, are in direct conflict.

In the United States Patent Oath he says the invention is described in a Belgian application of 1934.

In the Canadian Patent Oath he omits any reference to the Belgian application of 1934. Aghnides' omission is not an oversight, but an intentional one because he states in the Amendment of May 5, 1951 that:

> ". . . the said Belgian 1934 application *did not* disclose fully the bubbly-stream principle disclosed in Holland, Sweden, the United States patent No. 2,210,-846, the instant Canadian case and British Specification No. 625,084." (Emphasis Aghnides)

Aghnides had a duty to act fairly and without fraud and should have advised this Court as to the controversy in issue, and no one will deny that the Belgian and British patents, their disclosures, and the date of invention of Patent No. 2,210,846 were, in fact, the very heart of this controversy.

(133):

The decision by the Supreme Court of the United States in Precision Instrument Mfg. Co. *v.* Automotive Maintenance Machinery Co., 65 USPQ 133, and 324 US 806, decided April 23, 1945, should be controlling here. The Court said:

"* * * Clearly these are matters concerning far more than the interests of the adverse parties. The possession and assertion of patent rights are 'issues of great moment to the public.' Hazel-Atlas Glass Co. *v.* Hartford-Empire Co., 322 U.S. 238, 246 (61 USPQ 241, 245). See also Mercoid Corp. *v.* Mid-Continent Investment Co., 320 U.S. 661, 665 (60 USPQ 21, 24); Morton Salt Co. *v.* Suppiger Co., *supra;* United States *v.* Masonite Corp., 316 U.S. 265, 278 (53 USPQ 396, 402). A patent by its very nature is affected with a public interest. As recognized by the Constitution, it is a special privilege designed to serve the public purpose of promoting the 'Progress of Science and Useful Arts.' At the same time, a patent is an exception to the general rule against monopolies and to the right to access to a free and open market. The far-reaching social and economic consequences of a patent, therefore, give the public a paramount interest in seeing *that patent monopolies spring from backgrounds free from fraud or other inequitable conduct and that such monopolies are kept within their legitimate scope.* The facts of this case must accordingly be measured by both public and private standards of equity. * * *"

(Emphasis ours.)

SUMMARY

The Oaths in the United States Patent 2,210,846 and Canadian Patent 490,112 are in direct conflict as to the earliest date of invention for the identical five claims. Aghnides has testified before this Court that his United States Patent 2,210,846, Belgium Patent 406,702, and

(134):

British Patent 468,687 are one and the same invention. Aghnides' Oath for his Canadian Patent was executed in the United States, and in that application he has sworn

to the Canadian Patent Office that his United States Patent 2,210,846, Canadian Patent 490,112, and British Patent 625,084 are one and the same invention, and indeed, the claims of the United States and Canadian patents are identical. But Aghnides has further sworn in Canada that his Belgium Patent 406,702 and British Patent 468,687 are a *different* invention from that of his United States Patent 2,210,846 and Canadian Patent 490,112—*directly contrary to his sworn testimony before this Court.*

Further, the drawings of Aghnides' Canadian Patent 490,112 and British Patent 625,084 are *identical* and are held out in Canada to be one and the same invention. Aghnides in Canada has stated he proved to the British Patent Office that his British Patent 468,687 and British Patent 625,084 are *different* inventions. It is believed that Aghnides himself was personally present and made a demonstration to the British Patent Office.

Aghnides states that his Dutch Patent 65,293 is for the same invention as his United States Patent 2,210,846. In the Dutch Patent 65,293 he states the invention to be different from his French Patent 800,069, although the draw-

(135):

ings of French Patent 800,069 and the drawings of the abandoned United States application relied on as a basis for the claims of the United States Patent 2,210,846 *are identical.*

Aghnides tells this Court that the abandoned application Serial No. 52,923 drawings are for the same invention as claimed in his United States Patent 2,210,846. He tells the Canadian Patent Office and the Dutch Patent Office that a drawing identical to the United States abandoned application is not for the same invention.

Aghnides for the same invention has different dates of invention—either 1934 or 1937.

Aghnides, in countries other than the United States states that his invention date for the five claims of his United States Patent 2,210,846 is December 1937.

Aghnides, before this Court in the instant case, and in the Meyer's case, and in the Chicago suit, has claimed the Belgian Patent filing date of December 1934 as his date of invention.

Clearly, Aghnides has been false either before this Court or before the Canadian, British, and Dutch Patent Offices. If the basic issue of date of invention in this case has not (136):

been steeped in perjury, then there has been a total failure to disclose to this Court *knowledge of perjury* as to the identical basic issue of date of invention in Canada and Great Britain and the Netherlands.

There are attached hereto two brief charts illustrating graphically the different and conflicting positions that Aghnides has taken with respect to the various patents here involved.

There is filed herewith a certified copy of the file wrapper of Aghnides Canadian Patent 490,112 duly attested to by the Consul of the United States. The Amendments of May 5, 1951 and October 28, 1952 have been tabbed for ready reference. A copy of said Canadian Patent is included herewith.

There is filed herewith a photostatic copy of Aghnides' Dutch Patent 65,299 and an English translation thereof.

CONCLUSION

The directly contrary Oaths in the United States and Canadian patents for the identical claims should alone be sufficient to justify reopening this case so that the undisclosed facts, peculiarly within the knowledge of Aghnides and withheld by him, as well as those facts already disclosed, relating to the heart of this controversy—Aghnides' (137):

earliest date of invention—will all be before this Court.

The case should be reopened because Plaintiffs seek equitable relief, and Plaintiffs' witness, Aghnides, should have acted fairly and frankly and without fraud or deceit as to the controversy in issue.

The case should be reopened to introduce additional proofs showing that Aghnides' earliest invention date as to United States Patent 2,210,846 is December of 1937, and that his own Belgian Patent 406,702, having issued more than two years prior to the filing date of Patent 2,210,846, and his British Patent 468,687, and French Patent 800,069, having issued prior to the filing date of Patent 2,210,846, are pertinent references.

The case should be reopened because it relates to Patents, something that is of great moment to the Public at large, and the Court is entitled to have *all the facts*.

Respectfully,

January 24, 1956 Norman Block
Attorney for S. H. Kress & Co.

(231):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

ORDER DENYING MOTION TO REOPEN CASE.

The defendant filed a motion on January 26, 1956 to reopen this case for the admission of evidence chiefly for the purpose of showing that Aghnides made statements in the Canadian Patent office which contradict the evidence that he gave in this trial. The plaintiff has filed a brief in opposition to the granting of the motion. This court has carefully considered the motion, the briefs submitted by the defendant and the briefs submitted by the plaintiff and is of the opinion that the court ought not grant the motion to reopen the case.

The court assumes that the granting or the denial of the motion is in the sound discretion of the court. Marconi Wireless Co. *v.* U.S., 320 U.S. 1 at page 47 and 48.

The history of the case affords ample reasons for refusing any further delay for the purpose of taking additional evidence. A brief resume is necessary to show some of the reasons why it should not be longer delayed.

The complaint was filed May 13, 1954, the first answer on July 6th which pleads as a defense the decision of the 7th Circuit of Aghnides *v.* Goodrie, 210 Fed. 2d. 859 decided February 24, 1954. The trial in that case appears to have been instituted on November 15, 1951 which involved a patent in suit No. 2,219,846. The defendant in the instant case in paragraph 15 of its answer pleads prior art by specific reference to 2 United States Patents and 5 foreign patents and concludes his answer to that paragraph with these words "and in other patents and publications for which defendant is diligently searching and prays leave to add when found".

On December 6, 1954, it conducted an extensive examination by way of deposition of the plaintiff in New York in which the plaintiff disclosed that he had filed application for patents in England, France and Canada and other countries named based on his Belgium Patent. The defendant and his counsel have had since the 6th of December, 1954 to examine the File Wrappers in each of the countries where the plaintiff applied for a patent based on the Belgium Patent.

(232):

On December 21, 1954, the firm of Bair, Freeman and Molinare of Chicago, Ill. became formerly identified with the case with the local law firm of Block, Meyland and Lloyd and filed a motion to strike the answer to the counter-claim and on the same date filed an amendment to the answer setting up 3 additional U.S. Patents.

The trial started January 26, 1955, and on January 28, 1955, Chase, Brass and Copper Co. Inc. became a party plaintiff and adopted as its complaint the one filed by Aghnides.

On February 11, 1955, defendant filed another answer adding 5 U.S. Patents and 2 foreign Patents to the list previously set up in paragraph 15 of the first answer and pleaded conspiracy and anti-trust violations.

During the trial proper in January the defendant cross-examined Aghnides for two days covering 223 pages of testimony. The trial was then continued to a later date to be fixed by the court but the trial judge suffered a heart attack and was unable to resume the trial until October 10, 1955. At this time the defendant announced that it abandoned its counter-claim and the defense of misuse, at which time Aghnides was recalled and the cross-examination continued for more than one-half day. Again on Oct. 12th about one-half day was consumed in still further cross-examination of this witness covering forty-some pages.

One of the attorneys then had a serious illness while the trial was in progress and an adjournment had to be taken until a later date. The court convened on December 6, 1955 and resumed the trial. At this hearing the defendant called Aghnides back to the stand. The examination covered 11 pages and cross-examined him again which covered 12 pages more.

On December 6, 1955 the evidence was closed by both sides and each party was required by the court to submit original briefs and Requests for Findings of Fact and Conclusions of Law and furnish opposing counsel with copies thereof by January 15, 1956 and to file their reply briefs by January 31, 1956.

The defendant by proper diligence had ample opportunity to produce the evidence before the trial closed which

it is now asking this court to reopen the case to hear. The defendant has been represented by exceedingly able counsel, thoroughly skilled not only in patent law, but in general trial work. The court is compelled to hold a lack of diligence on the part of the defendant for not offering to present the evidence.

The main purpose of the motion to reopen the case is to produce the evidence of statements made by Aghnides to the Canadian Patent Office and to impeach or contradict the evidence of Aghnides.

(233):

The extended cross-examinations at different intervals throughout the entire year of 1955 afforded ample opportunity to the defendant to test the veracity and test the worthiness of the witness Aghnides.

It is true that this is not a motion to set aside a judgment or a verdict but I see no substantial reason which interposes any different degree of discretion in the one case from the other. The exercise of the discretion in refusing to set aside the judgment which was alleged to have been procured on perjured evidence, our Circuit ruled that the action on such a motion is in the sound discretion of the court even in a patent case. Horrison *v.* Hoffberger Co., 190 F. 787 (4th cir.). Another case which sustains the action of the trial judge in refusing to grant a new hearing for the purpose of merely impeaching witnesses who testified is English *v.* Nattson, 214 F.2d. 406 (5th cir.). It seems to be well settled that a new trial should not be granted unless the facts discovered are of such a nature that they would probably change the outcome; that they are actually newly discovered and could not have been discovered earlier by proper diligence and are not merely accumulative or impeaching. See also Colonial Book Co. Inc. *v.* Amsco School Publications Inc., 142 F.2d 362 (2d cir.).

There is another reason which warrants a denial of the motion. Already the case has been long delayed due first, to the illness of the judge and then the illness of one of the counsel and there are many other judicial matters pending before the court which demand attention even if it were satisfactory to the parties to spend much more time and delay a final determination of the case. It is not likely that the evidence, if the case were re-opened, would substantially change the views of the court with respect to the credibility of the witness Aghnides.

The court, therefore, in the exercise of its discretion denies the motion to reopen the case and allows the defendant an exception.

This the 14th day of April, 1956.

Johnson J. Hayes,
United States District Judge.

(234):

OPINION:

Hayes, District Judge:

This is a suit to restrain the defendant from infringement of Aghnides Patents Nos. 2210846 and 2316832 and for damages for infringement. The usual defenses are alleged.

Patent 2210846, hereafter referred to as '846, is the basic patent and 2316832, referred to later as '832, is for improvements on '846. The patents are concerned with, and constitute, an attachment to be fastened to a kitchen sink water tap, by a rubber device to slip over the tap or by screwing the metal device into the tap. This attachment is properly called an Aerator. The object of the basic patent was to receive into the aerator through a wire mesh water under pressure which would be divided into

(235):

multiple droplets. As they emerged from the mesh, air from the outside would be drawn into the chamber from air ports or openings in the device. At the bottom of the

chamber, meshes or screens would retard the water from immediately escaping through the outlet, thereby imprisoning multiple bubbles of air in the water bubbles, and by the proper arrangement of the outlet screens, cause the emerging stream to become coherent, soft and splashless. It seems incredible that so much could be accomplished with so small a device which is less than an inch in length and is virtually un-noticeable when affixed to the water tap.

'832 relates to alterations or additions to the basic patent which effect a better mixture of air and water and improve the whiteness, softness, coherence and anti-splash effect on the emerging stream.

This court had these same patents under consideration in an infringement suit by Aghnides *v.* Meyers Co., 117 F. Supp. 839, in which it was decided that the patents were valid and infringed. Since that time, the seventh Circuit Court of Appeals in Aghnides *v.* Goodrie et al., 210 Fed. 2d 859, held '846 invalid; then again in Aghnides *v.* Holden, 226 Fed. 2d. 949 in which it held that its previous decision was not res adjudicata since the defendant was neither a party or privy to the first case. For the reasons and authorities cited in Aghnides *v.* Holden, *Supra*, the previous determinations are not binding in the instant case because the defendant here was not a party to either of the cases.

The instant case has been fully and capably contested every step of the way throughout a lengthy trial at different intervals during 1955; and requests for extensive findings of fact and conclusions of law have been submitted by each side, together with excellent briefs in support of the requests. This court has made a most thorough examination of the evidence, the actual demonstrations of the patented devices and of the prior art and of the arguments of counsel. Due to the determination of the seventh Circuit that '846 was invalid, this court felt constrained to

follow it rather than its own determination in the Myers case if the evidence warranted it. However, with great deference, we are unable to agree and will set forth the reasons why we hold the patents valid and infringed.

There is no evidence which warrants the court in finding that such a device was in use or had been discovered which was designed or intended to aerate water in a kitchen water tap and to cause the emerging stream to be aerated water forming a soft and coherent stream which would not splash upon striking a dish or other object in the sink.

Such a device met a long felt need which is unmistakably established by the wide spread use of plaintiff's aerators. Since the granting of the basic patent of 1940, on application in Dec. 1935, more than 21 million have been made and (236);
sold by plaintiff's licensees. Its universal acceptance by consumers eloquently establishes the novelty and satisfaction of previous need.

The means by which the device accomplishes the desired result had never before been brought together in a combination which remotely approached the solution of the problem which Aghnides solved so simply. The central portion of the little device is treated as a chamber. The stream of water from a faucet under ordinary pressure is split into multiple units by the insertion of a screen or screens in the upper part of the device. There are openings or ports in the upper part of the device which permits air to be drawn into the chamber and in such a manner that water in no wise escapes through these openings, although the water is detained in the chamber where it envelops small air bubbles. This is accomplished by the insertion of a screen or screens at the outlet of the device in such a manner that the water remains in the chamber sufficiently to envelop air but not to escape out of the air ports, and these outlet screens are so adjusted in relation to the intake

of air and water into the chamber that these multiple droplets of aerated water emerge in a coherent, soft, whitish and splashless stream.

It may be difficult for men to see any useful purpose or novelty here rising to the dignity of invention but it would never be hard for the housewife to see it unless she has an automatic dish washing machine.

It is difficult to ignore the valuation placed on the device in the commercial world. Business concerns are quick to discover and to acquire the rights to use gadgets and devices which give promise of commercial success. Why would reputable concerns like Chase Brass and Copper Co., Firestone Tire and Rubber Co., and Chicago Faucet Co., pay royalties to manufacture and sell 21 million of these aerators if they doubted the validity of the patents in suit.

The strongest evidence of validity is the actual demonstration of the device according to the claims of the patents and a similar demonstration of the prior paper patents. A close observance of the demonstrations leaves no lingering doubt here that both patents are valid.

In addition to the above, we cannot ignore that these patents did not emerge from the Patent Office until full consideration by the Board of Appeal. The members are experts in their field and their opinions are not only presumed to be proper but common sense likewise warrants giving great weight to their determination on patentability.

Against this array of evidence and the testimony of Aghnides, we have the paper patents cited by the defense and the testimony of its expert who is of counsel for the defendant and the three judges who of course only decided on the basis of the evidence in the record and demonstration before them.

(237):

Plaintiff's licensee, Chase Brass and Copper Co. Inc., now owner, makes an aerator under the patents in suit

called "Spring-Flo", (pl. Ex. 29), and Chicago Faucet Co. makes the "Soft-Flo" aerator, (Pl. Ex. 30) Firestone Tire and Rubber Co. makes "Velva-Flo" aerator (Pl. Ex. 31). An examination and test made before the court of defendant's Mel-O-Flo aerator, the accused device, (Pl. Ex. 18) and Exhibits 29, 30 and 31 and each embodies the structural features of Patent '846. The structural elements of the accused device in comparison with those of Aghnides is shown by plaintiff's Exhibit 33 which applies Claims 1 and 4 of '846 to the Mel-O-Flo aerator. Actual tests before the court clearly demonstrate that the results obtained by Mel-O-Flo are substantially the same as are obtained by Spring-Flo and Aghnides Fig. 4 (Pl. Ex. 28). Since aerated water emitting in the coherent splashless stream is the goal sought, it is interesting to note that the cubic inches of air added to each cubic inch of water are as follows:

Spring-Flo	6.0
Aghnides Fig. 4	4.3
Mel-O-Flo	5.1

The same tests also show the vast difference between the above devices and the prior art. Felten, which is the nearest and strongest and the one relied on for invalidity in the Aghnides *v.* Goodrie, *Supra,* furnishes only .7 inch of air to each cubic inch of water.

The accused device is an embodiment of Aghnides invention and utilizes substantially the same elements and the same mode of operations to accomplish the same result.

Defendant's Mel-O-Flo aerator has the second up stream diaphragm of Patent '832 and when used with the adaptor with which it is sold embodies both the second up stream diaphragm and the restricted up stream orifice of Patent '832. The two charts (Pl. Exs. 35 and 37) applying Claims 2 and 4 of Aghnides '832 to the structural element of the Mel-O-Flo aerator show the correspondence of those structures to the elements of Aghnides claim. Mel-O-Flo em-

bodies the Aghnides invention in Patent '832 and the same or equivalent element accomplish the same result in substantially the same way.

There was an utter lack of proof to show that any device existed prior to the Aghnides invention which embodied the combination of elements operating in accordance with his mode of operation and producing comparable results.

Felten as shown above did not produce aerated water. He did not seek that result. He was endeavoring to provide a vacuum pump. This necessitated the flooding of the chamber to create vacuum, the exact opposite of Aghnides Patents in suit. He did not obtain aerated water, nor a coherent, splashless stream. There is nothing in Felten to indicate he was concerned at all in these results. This (238):

applies to Aghnides 1,912,113, and to Fuss Patent 1,090,044.

Battersby British Patent No. 323,242 of 1929 and Solomon British Patent No. 405316 of 1934 are similar in that they produce a violent, splashing, divergent stream without the necessary aeration. They are clearly for a different purpose and operate on principles inapplicable to the Aghnides patents in suit. The ingenious defense is urged that one skilled in the art could appropriate some of the teachings of Felten with some of those disclosed in Battersby and Solomon and then take some of the teachings of Viellard British Patent 12, 345 of 1898 and Purser British Patent No. 136,663 of 1919 and produce the same results as did Aghnides. Here, however, none of the prior art seemed to have been interested in aerating water in the kitchen tap in order to cause it to emerge in a coherent, bubbly, soft splashless stream. They did not see the problem, did not undertake its solution, and not one nor all of the prior art became the equivalent of Aghnides and it required inven-

tion to combine the old principles into the new and useful result found in the patent in suit. Holtke *v.* C.M. Kemp Mfg. Co. 4 cir., 80 Fed. 2d. 912; Colgate Palm Olive *v.* Carter Products, Inc. No. 7075, decided March 8, 1956, ... Fed. 2d .....

If Aghnides had done nothing more than make a true combination in which old elements were combined to produce a new and useful result it constituted invention and he is entitled to protection against infringement. Numerous citations from this Circuit could be added, but the two cases cited above and Reynolds *v.* Whitin Machine Co., 167 Fed. 2d 78 cover every phase of this case in regard to patentability, prior art and infringement.

The improvement patent '832 was allowed over the basic patent '846 by the Board of Appeals in the Patent Office. The demonstrations of the device constructed according to the disclosure of '832 in comparison with the prior art convincingly show that invention beyond the skill of the art at that time was required. Defendant has not established anticipation of '832 or that the ordinary skill of the art could create the improved combination of this patent.

The application for patent '832 was filed April 5, 1940. The defendant contends that Chicago Faucet Co. offered for sale the device embodying the patent more than two years before the filing of the application. Aghnides made the invention and arranged with Chicago Faucet Co. to (239):

manufacture it as his licensee but before it was to be put on the market a sample was to be submitted to Aghnides for his approval. Due to an advertisement in Domestic Engineering, March, 1938, by Chicago Faucet Co., it is urged that this constituted an offer for sale. The evidence shows the aerator was not assembled until April 14, 1938, at which time a sample was sent to Aghnides for his approval

and there were no sales of such aerators until May, 1938. It was not on sale or sold prior to two years before the application was filed.

The accused device Mel-O-Flo sold by the defendant was manufactured by Melard Manufacturing Co. When the summons and complaint in this case was received in defandant's main office in New York, it was forwarded by Mr. Gueber, its chief counsel, to Melard Manufacturing Company, under date of May 20, 1954, with the following request: "In as much as we purchase 'Mel-O-Flo Jet Aerators' from you we look to you solely to take over the defense of this action and save us harmless from any and all loss, cost, damage and expense which may arise therefrom." On May 21, 1954, Melard wrote Mr. Guerber acknowledging receipt and said: "We have forwarded above to our attorneys, and shall contact you upon hearing from them." At the request of Block, Meyland and Lloyd, time for filing answer was extended June 2, 1954 to July 6, 1954. The answer was filed on that date signed by the same attorneys but who were not employed by S. H. Kress and Co. The answer pleads invalidity, non-infringement and the prior adjudication in Aghnides *v.* Goodrie, 210 Fed. 2d. 859, and contains a counter-claim for a declaratory judgment declaring both patents invalid and void and non-infringement by defendant.

On October 7, 1954, plaintiff served interrogatories on Block, Meyland and Lloyd. On Oct. 19, 1954 Mr. Lettvin of the firm of Bair, Freeman and Molinare of Chicago visited Mr. Guerber in connection with answering the interrogatories. Melard Manufacturing Co. had assumed and actually conducted the entire defense through its patent attorneys above named without Kress knowing who they were or what they were doing. Plaintiff took the depositions of the officers of Melard Manufacturing Company and

of S. H. Kress and Co., including counsel, but by objecting in behalf of Melard that communications between it and counsel were privileged and in the same manner as to communications between Kress and counsel, succeeded in withholding the details of what occurred on Oct. 19th and thereafter except when depositions of Melard officers were taken Bair, Freeman and Molinare were entered as attorneys for Melard and they were listed also attorneys for Kress. On Nov. 2, 1954, Melard delivered to Kress this letter:

(240):

Ex. 2. November 2nd, 1954.

S. H. Kress & Co.
114 Fifth Avenue
New York, 11, N.Y.

Att. Mr. Gerber

Gentlemen:

Be advised that Melard Manufacturing Corporation will and does indemnify S. H. Kress & Company against all claims in the United States arising from charges of patent infringement as a result of Kress' sale of Mel-O-Flo Aerators.

Very truly yours
Melard Manufacturing Co.
Signed
Sidney J. Shames
President.

Kress answers the Interrogatories Nov. 8, 1954, notwithstanding the above letter, the answers to the Interrogatories, its answer to No. 17 is: "No knowledge, but neither Melard Manufacturing Corp. nor any attorneys acting on behalf of Melard Manufacturing Corporation have agreed with S. H. Kress and Company to aid in or contribute toward the defense of this action in the future."

The depositions, especially of Guerber, indicate that Lettvin interviewed Guerber in connection with, and assisted in, preparing answers to the Interrogatories and at that time some kind of arrangement was effected between the attorneys for Melard and defendant Kress whereby as of October 19, 1954 Baer, Freeman and Molinare would represent Kress. The details were not disclosed due to objections by Lettvin that all that information was privileged.

By leave of court Chase Brass and Copper Co., Inc., became a party as assignee and filed its Complaint January 28, 1955, adopting the original Complaint of Aghnides. The trial began January 26, 1955 and continued through January 28, recessing to a later date. Defendant filed an answer Feb. 11, 1955, reasserting the defenses of its original answer and pleaded a Counter Claim for Misuse and Anti-Trust violation and for damages. At the resumption of trial on October 10, 1955, Mr. Freeman announced the abandonment of the defense of Misuse and its Counterclaim for violation of the Anti-Trust laws. On October 12, 1955, Mr. Freeman stated that he never would have with-
(241):
drawn his Misuse defense or abandoned the Counter Claim for Anti-Trust violation if he had not been directed to do so by general counsel for Kress. At that time he admitted his firm was being paid by Melard Manufacturing Company.

It is the contention of the defendant that Melard Manufacturing Company was not a party to the suit and that no issues are raised which warrant a finding in relation thereto, relying on Minneapolis Honeywell Regulator Co. *v.* Thermoco, Inc., 116 Fed. 2d 845. It is there stated: "Obviously it was not necessary to the decision of any of these issues to decide who was defending the action." This is in conflict with the rule in the Third and Fourth Circuit Courts of Appeals. Caterpillar Tractor Co. *v.* Interna-

tional Harvester Co., 120 Fed. 2d. 82. (3rd cir.), 139 A.L.R. 1 and extensive note beginning at page 9; E. I. Dupont DeNemours and Co. *v.* Sylvania Industrial Corporation, 4th cir. 122 Fed. 2d 400; Aetna Casualty and Surety Co. *v.* Abbott, 4th cir., 130 Fed. 2d. 40, at 42. In the latter case the court said:

> "The defense that the gold certificates were possessed by plaintiff in violation of law was asserted and fully passed on in the suit against the Takoma Park Bank, in which the judgment sued on was obtained, and which was admittedly defended by defendant under its policy. It is too well settled to admit of discussion that on such a question the defendant is concluded by the judgment. The defendant, by defending the action, bound itself by the judgment to the same extent as though a party to the record. E. I. DuPont De Nemours and Co. *v.* Sylvania I. Corp., 4 cir., 122 Fed. 2d 400, 404; Lovejoy *v.* Murray, 3 Wall. 1, 18 L.Ed. 129. And as said by this court in National Bondholders Corp. *v.* Seaboard Citizens Nat. Bank, 4 Cir., 110 F. 2d 138, 143: "It is well settled that a fact or question which was actually and directly in issue in a former suit, and was there judicially determined by a court of competent jurisdiction, is conclusively settled by the judgment therein so far as concerns the parties to that action and persons in privity with them, and cannot be again litigated in any further action between the parties or privies in the same or any other court upon either the same or a different cause of action."

In Davis Company *v.* Baker-Cammack, 86 Fed. Supp. 180, 4 cir., 181 Fed. 2d. 550, there were 167 hosiery manufacturers, not nominal parties to the record, but companies

who contributed to the fund to pay counsel for defending the patent infringement suit. The judgment was applied to each contributor as to validity of the patent and each was enjoined against infringement of the patents in suit. (242):

Hence, both by the great weight of authority and specifically under the law of this circuit, Melard Manufacturing Co. having conducted the defense for Kress and for itself as fully and completely as it could have done if it had been a party, is bound by the judgment against Kress, especially as to the validity of the patents in suit and their infringement by the Mel-O-Flo device sold by Kress and manufactured by Melard Manufacturing Company. It is true that Kress, for reasons not disclosed to the court, decided to abandon the Counter Claim for damages on its plea of Anti-Trust violation, but there is nothing to show that Melard elected to decline to defend the suit because of Kress' abandoning the Counter Claim and defense of Misuse. It is not material whether Melard defended for Kress in discharge of Melard's duty to do so under its agreement with Kress or to protect itself from a judgment in favor of Aghnides. The fact remains that it conducted the defense and is bound by the judgment against Kress.

Let a decree be entered according to the views herein expressed.

This the 4 day of May, 1956.

Johnson J. Hayes
United States District Judge.

(243):
Messrs. Ely, Frye and Hamilton
Akron, Ohio.

Pennie, Edmonds, Morton, Barrows
and Taylor,
214 Park Avenue
New York City, N.Y.

Messrs. Brooks, McLendon Brim and Holderness
Greensboro, N. C.
and
Messrs. Bair, Freeman and Molinare
135 S. LaSalle St.
Chicago, Ill.
Messrs. Block, Meyland and Lloyd
Greensboro, N. C.

RE: *Aghnides* v. *Kress*—857-G.

Gentleman:

I have just completed two weeks of work reviewing the evidence and studying the briefs in this case. I have adopted the findings of fact and conclusions of law submitted by the plaintiff and made an entry allowing the defendant exceptions to each finding of fact and conclusion of law and also an exception to the refusal to find the facts and make the conclusions of law as requested by the defendant.

Plaintiff's counsel should prepare and submit to the court a decree based upon the findings of fact and conclusions of law said the opinion filed by the Court, a copy of which is enclosed. I would like for the decree to be available for my signature at Rule Day in Greensboro on May 18th.

Johnson J. Hayes

(244):

IN THE UNITED STATES DISTRICT COURT

* * (Caption—Civil Action No. 857-G) * *

DECREE

The trial of this action having been had before the Court, and the Court having considered the evidence, the exhibits, the record and all the papers and proceedings had herein, and the Court having made and filed its Opinion, dated May 4, 1956, and its Findings of Fact and Conclusions of Law, dated May 4, 1956, which are made a part hereof by references, it is hereby

ORDERED, ADJUDGED and DECREED:

1. United States Patent No. 2,210,846 granted August 6, 1940, to plaintiff, Elie P. Aghnides, is good and valid in law as to all of the claims thereof.

2. United States Patent No. 2,316,832 granted April 20, 1943, to plaintiff Elie P. Aghnides, is good and valid in law as to all of the claims thereof.

3. Plaintiffs are entitled to the relief herein granted.

(245):

4. The defendant, S. H. Kress & Company, has infringed upon said patents and both of them by the sale in this district, prior to the filing of the Complaint, of aerators known as "Mel-O-Flo" aerators, manufactured by Melard Manufacturing Corporation, of New York, New York, which said "Mel-O-Flo" aerators infringe all of the claims of each of said patents Nos. 2,210,846 and 2,316,832.

5. As will appear by reference to the Court's Findings of Fact and Conclusions of Law, dated May 4, 1956, which are incorporated herein, the conduct of the case and defense thereof was in fact undertaken, controlled and directed by Melard Manufacturing Corporation, and said Melard Manufacturing Corporation is and shall be bound by this Decree in all respects the same as the defendant, S. H. Kress & Company.

6. That the defendant, S. H. Kress & Company, and Melard Manufacturing Corporation, their officers, agents, servants, employees and attorneys and those persons in active concert of participation with them, who receive actual notice of this Decree and Injunction by personal service or otherwise, be and they are hereby perpetually restrained and enjoined from manufacturing, using or selling said "Mel-O-Flo" aerators or other aerators embodying the invention of patent Nos. 2,210,846 and 2,316,832, or from directly or indirectly infringing said patents or from in any way infringing both the rights of plaintiffs, Elie P. Aghnides and Chase Brass & Copper Co., Inc., under said patents, or either of them, during the life of said patents, respectively.

7. Damages to the extent of One Dollar ($1.00) are awarded in this action to the plaintiffs by reason of the infringement of defendant, S. H. Kress & Company, of the said patents.

8. Plaintiffs are hereby awarded costs in this action to be taxed by the Clerk of the Court.

(246):

The defendant having withdrawn in open court the affirmative defenses set forth in paragraphs IV, V and VI, and the counterclaims set forth in paragraphs VII and VIII of defendant's Second Answer, filed herein February 11, 1955, and, it is

FURTHER ORDERED, ADJUDGED and DECREED:

9. That said affirmative defenses and counterclaim be and the same hereby are dismissed with prejudice, and defendants exhibits 4-13 inclusive, relating thereto, be and the same hereby are stricken from the record.

This the 22 day of May, 1956.

(s) *Johnson J. Hayes*
United States District Judge

(247):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

The Court having made its findings of fact and conclusions of law, and mailed copies thereof to counsel representing the defendant, and having appointed this day as the date for entry of decree, pursuant to the findings of fact and conclusions of law, at this time the Court orders that the defendant be and he is hereby allowed and exception to the refusal of the Court to make each finding of fact in accordance with the request submitted, and exception to each refusal to make the conclusions of law as requested by defendant, and also allows an exception to the defendant for each finding of fact which the Court did make and each conclusion of law, and to the decree which is entered.

At Greensboro, this May 22, 1956.

(signed) *Johnson J. Hayes*
United States Judge

(248):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

NOTICE OF APPEAL

Notice is hereby given under Rule 73, FRCP, that S. H. Kress & Company, Defendant above named, hereby appeals to the Court of Appeals for the Fourth Circuit from the Order Denying Motion to Reopen Case dated April

14, 1956, and from the Decree entered by the Court in this action on May 22, 1956, and from the whole thereof.

Norman Block
Block, Meyland and Lloyd
Greensboro, North Carolina

Will Freeman
Bair, Freeman & Molinare
135 South LaSalle Street
Chicago 3, Illinois
Attorneys for Defendant
S. H. Kress & Company

Dated: June 19, 1956.

PROCEEDINGS

• • • •

(Tr. 39):

ELIE P. AGHNIDES, the plaintiff, being first duly sworn, testified as follows:

DIRECT EXAMINATION.

By Mr. Ely:

• • •

(Tr. 83):

The Witness: At the upstream end of this device, the Mel-O-Flo, there is a diaphragm with small orifices through which the water from the faucet goes, is delivered, and below the diaphragm there is a casing with lateral holes for the admission of air, and below those lateral orifices for the admission of air there is a resistance formed by the screen, so that the performance of this aerator is the delivery of naked streams in an open chamber to receive free atmospheric air and then to strike the inner walls of the casing and then further break up at the screen at the discharge end of the device and emerge as a coherent, bubbly stream.

(Tr. 84):

Q. (By Mr. Ely): Suppose we come down to the chart, Plaintiff's Exhibit 33, and, if you will take the pointer and take the article along with you too, will you please show to the Court first the various elements—

The Court: Wait just a minute before he gets on to that. You have not described this diaphragm.

The Witness: Yes. This diaphragm here is formed by a ring and the plate that is seated in that ring. The plate is provided with teeth so that when the plate is seated in that ring the space between the teeth and the ring forms openings through which the water goes with high velocity.

The Court: But the piece itself is not perforated like the screen (diaphragm?) in yours?

The Witness: No.

The Court: It has openings around the border of the piece through which the water can escape downward?

The Witness: When the parts are hooked together, then we have perforations formed by the division of two parts.

* * * *

(Tr. 116):

CROSS EXAMINATION.

(Tr. 134):

Q. Do you have a copy of the Felten patent which you referred to yesterday in your direct examination?

Mr. Ely: It is an exhibit, isn't it?

Mr. Brooks: It is Exhibit 24.

(Tr. 136):

Q. Isn't it a fact that the water passes through the aperture or opening C?

(Tr. 137):

A. Yes, it is.

Q. And that the diameter of opening C is substantially less than even the upper end of the chamber E; is that

correct?

A. It has to be less, of course.

Q. So that that jet, which is defined as to its cross section area by the opening C, moves downwardly, in the downstream direction; is that correct?

A. Yes, sir, it goes into the narrow throat.

Q. And, as a result of that jet moving downwardly, air is sucked in through the orifice D in the side of the member?

A. Yes, sir.

• • •

(Tr. 138):

Q. Now Felten shows an internally screw-threaded member at its upper end, which is marked with reference (Tr. 139):
letter B, and that is for securing to a tap or some threaded connection; correct?

A. I believe so.

Q. You have read the specifications?

A. I believe so. I see so there, and the specification says.

Q. In Felten there is a discharge end directly below the threaded portion B which is referred to by the reference letter G; correct?

A. Yes.

Q. What discharges through the opening within the member G in Felten?

A. When it is operating as Felten describes it, it discharges water containing a little ozone for sterilizing the water.

Q. That ozone includes air, does it not?

A. It says so, yes.

Q. So that out through the opening in the member G at the lower end you get a discharge of air and water, or ozone containing air and water?

A. Yes.

Q. Now between the orifice C by which a jet of water is formed and the discharge opening in the member G do you find any obstructions that will offer resistance to the (Tr. 140):
flow of water before it is discharged to free atmosphere?

A. Yes, I find the mixing means Felten is referring to, as shown by letter F.

Q. Now the members F are in stacked relationship, one above another; correct?

A. So says the patent.

Q. And those members F are each arranged with some openings and some plain or solid portions; correct?

A. Correct.

Q. So that the cross section at the lower end of the fitting provides an obstruction clear across, which obstruction has a certain number of openings in it; correct?

A. Yes.

Q. And is it true that the water and air that enters into the chamber E must take a circuitous path before it is discharged through the opening in the member G, circuitous meaning a zigzag or erratic course?

A. Yes. May I, with your permission, complete my previous reply?

Q. Certainly. I thought you were through. You just go ahead and amplify as much as you like.

A. You asked me if the water—could I have that question again, please, the previous question?
(Tr. 140a):

The Court: Read the question and his answer.

(Record read by the reporter, as follows:

"Q. So that the cross section at the lower end of the fitting provides an obstruction clear across, which obstruction has a certain number of openings in it; correct?

"A. Yes")

The Witness: I would like to complete. That member is followed by coupling G, which has a smaller diameter than the diameter of the member upstream of the coupling G.

Q. That member is member F?

A. Yes, member F.

Q. In other words, are you making a point of the fact that the opening in the member G is contracted or smaller than the overall area of the members F?

A. I am not saying that that opening, the total open orifice of G, is smaller than the total opening of member F. I did not say that, but I said that the diameter of the coupling G at the lower end of the device is smaller, as one can see in the drawing, then the diameter of disc F.

• • •

(Tr. 146):

Q. Now we will come back to the Felten patent. Yesterday you described that patent on direct examination as being a vacuum pump?

A. Yes.

Q. And I am going to ask you if you find anything in any of the words in that patent that uses the term "vacuum pump".

A. I believe it says somewhere that it is an injector—here it is, page 1, lines 23, 24: "The body A of the mixing apparatus, which of course could also consist of several parts, serves as an injector." Injectors and vacuum pumps are equivalent terms.

Q. In other words, the term injector, as used in the description of the Felten British patent, denotes to you a pump, a vacuum pump?

A. Yes, sir, because it operates also exactly like a vacuum pump.

Q. Now that phrase that you just read refers to the body of the mixing apparatus serving as an injector; correct?

A. Yes, the body A of the mixing apparatus.

Q. So that I definitely understand you, the use of the term injector in the description of the device of Felten denotes to you a vacuum pump; correct?

A. The Felten apparatus denotes to me a vacuum pump, because vacuum pump is equivalent to injector in the scientific language.

(Tr. 147):

• • •

(Tr. 151):

Q. (By Mr. Freeman): Now, Mr. Aghnides, will you turn to your first patent, number 2,210,846 and tell me which figure is closest to the Firestone commercial product?

A. I would say Figure 1.

Q. And which one to the Chase—the same question with respect to Chase?

A. Figure 4.

(Tr. 152):

Q. And which one to Chicago Faucet?

A. Figure 4.

• • •

(Tr. 154):

Q. (By Mr. Freeman): Now will you turn to line 31, column 2, page 2, wherein you describe the operation of Figure 8, and do you not there find—and I now quote:

"As in preceding examples, the fluid under pressure courses through passages 74 and draws fluids from inlet ports 76 and 77 into the enlarged portion of passages 74. Baffles 78 project into the passages at the point where the passages discharge into the mixing chamber. The baffles in part interrupt the course

of the fluids in each passage and thereby serve to effect a preliminary mixing of the fluids. Within the mixing chamber two screens 80 in spaced relation are placed across the path of the fluids emerging from the passages 74 to interrupt abruptly the course of all such fluids and thereby cause the fluids to mix and sub-divide into minute particles. The fluids are discharged through the outlet 82."

Now I will ask you if that is a correct description of Figure 8?

A. I believe it is, yes.

Q. The difference between Figure 8, in so far as the openings on the side, is that one takes in one type of gas and the other one takes in another type of gas; is that correct?

A. Gas, liquid, fluid.

Q. Well, air is fluid, is it not?

A. Yes, air is fluid too.

Q. And is it true that that device could be used so that the same fluid would come in through both of the openings which project laterally from the sides?

A. If you decide to do so, it could be, yes.

(Tr. 156):

Q. And those openings could be left open to atmosphere, as shown in Figure 8, and you could draw in air?

A. They are not intended to be, but you might leave them open and draw air.

Q. Are they intended to be connected to some container or space?

A. Yes.

Q. And is it true that, when connected to some container or space, the structure of Figure 8 would serve as an exhaustor?

A. As a vacuum, as an exhaustor, as an injector.

Q. In other words, it would draw air out from the encompassed space or container and that air would be drawn as a result of the water passing through the orifices in the form of jets; correct?

A. Yes.

Q. And it is likewise true, is it not, that in the course of the jets they would be initially broken up as they passed downwardly in the openings 74; correct?

A. Initially broken up where? I don't follow you there. Opening 74 is the conical channel, isn't it?

Q. 74 is the conical conduit or passageway?

A. Yes.

Q. Isn't it true that as the liquid and air—and at (Tr. 157):
that time the liquid is in the form of a jet surrounded by air?

A. If you admitted air, yes.

Q. If you opened it to atmosphere, or using it as an exhaustor, air and water would pass through the opening 74 in a downward direction; correct?

A. Yes, that's correct.

Q. And that air and water would then strike against inwardly extending baffles which extend from the walls?

A. They would be stymied there and flood the channel, yes.

Q. And, as a result of that initial breakup brought about by the baffles 78, the liquid would then go on down into chamber 72?

A. Yes.

Q. And pass out through two spaced screens; correct?

A. Right.

Q. And likewise through the restricted orifice 82 in the lower end of the unit?

A. Yes.

Q. Now Figure 8 operates, does it not, on the same phenomenon or principle that we find in your Figure 6?

A. It does not.

Q. It is different?

A. It is different.

(Tr. 158):

Q. Is it a different invention?

A. It is no invention. Figure 8 is no invention; it is a known thing.

• • • •

(Tr. 175):

Q. Now, with respect to Figure 6, what figure, if any, in the abandoned application corresponds to it?

A. There is none, but, in principle, it is the same because—

Mr. Freeman: I move that the last portion be stricken as not responsive.

The Court: Overruled; exception. He has answered and can make any explanation necessary to clarify it. Go ahead.

The Witness: I said in principle, the principle being to break the water against obstacles and baffles and screens. The construction exactly as shown in Figure 6 of the patent does not exist in the abandoned application, but the equivalents, they certainly do.

Mr. Freeman: I object to that term, "equivalent". That is for the Court to find.

The Court: He is merely expressing his opinion. I will reserve the right to pass on that.

• • •

(Tr. 176):

Q. (By Mr. Freeman): And you do not find any figure in your Belgian application or patent corresponding to Figure 6 of your U. S. patent; correct?

A. The answer is the same as before.

Q. When you say the same as before, the same as with respect to Figure 5?

A. Yes; in other words, the equivalent, but not exactly the same.

• • •

Q. Now will you look at your first patent in suit and tell me which one of the seven different forms or arrangements there shown corresponds the closest to the structure here charged to infringe?

A. I would say Figure 6. I would add that it infringes all the forms of my aerators, but it is closer to Figure 6.

• • •

(Tr. 178):

Mr. Freeman: I'd like to offer in evidence as Defendant's Exhibit 14 a copy of British patent number 468,687, (Tr. 179):

issued to Aghnides, the plaintiff here, and I offer it on the basis that it was referred to in the file wrapper which was offered yesterday by the plaintiff, Exhibit 16, and it is a part thereof. It is sometimes called "the contents."

Mr. Ely: What is that?

Mr. Freeman: That is the British patent that corresponds to the patent here in suit.

Mr. Ely: That isn't prior art. I object to that.

Mr. Freeman: I don't offer it as prior art. I offer it as one of the patents referred to in the file wrapper that you offered yesterday and which is referred to on page 34 of Exhibit 16, under date of November 17, 1938.

Mr. Ely: I certainly don't see the purpose of that, Your Honor. This man's British patent is on file within the date of the convention. I don't see what it's all about.

Mr. Freeman: I didn't tell you what it was all about. I said I offered it because it was referred to, and I was going to go into it. I haven't yet stated why.

Mr. Ely: I object to it as immaterial and irrelevant.

The Court: I will overrule your objection now. Go on and let's see what it is. Does this have substantially the same drawing on it as the patent applied for in Belgium?

Mr. Freeman: It is almost the same; it's not quite the same.

(Tr. 180):

(The patent referred to was received in evidence as Defendant's Exhibit 14.)

Q. (By Mr. Freeman): Mr. Aghnides, this morning when I asked you about the Felten patent and you criticized it as being an injector and that therefore it differed from an aerator—do you remember that?

A. I said it is a vacuum-producing device, yes, and I said generally I applied the term injector also to vacuum pumps.

Q. And because of the use by the patentee of the Felten patent of the term "injector," you then said that meant to you a vacuum pump; is that correct?

A. Not merely because of the use of the word; because of the structure that is shown in the device, in the drawings of the patent.

Q. That is a little different from what I understood you to say, but I will accept that for the moment.

A. I did say they used also the term "injectors" for vacuum pumps.

Q. And do you use the term "injector" in connection with aerators?

A. I don't, but maybe by mistake it may have been used.

Q. No, I am asking you now whether or not the term "injector" can equally well be used in connection with aerators.

(Tr. 181):

A. It wouldn't be proper.

Q. Now will you look at your British patent, which I have offered as Defendant's Exhibit 14; and I will ask you to read the third paragraph, page 1, beginning with line 11, which explains what your device is.

A. Yes. It says—even though it uses the word "injector portion," it says that is provided upstream of the part where it aspirates air, with a perforated cross partition that divides the stream of liquid into a number of small streams and downstream the said part, with an atomizing and mixing portion comprising one or more finely perforated plates, so that the resulting jet is of substantially uniform pressure throughout its cross section and consists of a uniformly distributed, evenly broken mixture of liquid and air, having the particles of liquid and air in intimate association with each other even after issuing from the said device.

Q. What is the injector portion that is referred to there as part of your invention?

A. In this case it seems the diaphragm it describes as being perforated with several orifices; it refers to that diaphragm.

Q. As an injector?

A. Yes. It is not a good definition of a diaphragm, but it says so.

(Tr. 182):

. . . . . .

(Tr. 184):

Q. Now you don't claim to be the first to pass water under pressure through screens, which screens offer resistance, do you?

A. I do not.

Q. And you do not claim to be the first to contract the lower end of a device that passes air and water through a member?

A. I do not.

Q. Now tell me when you personally began the activity of having a flow of water suck in air, mix the two together, and discharge air and water through an opening (Tr. 185):
to atmosphere.

A. You are asking me at what time?

Q. Yes.

A. Oh, it must have been sometime in 1933, and I applied for my patent in 1934. It might have been the beginning of 1934. I don't know; it's a long time ago.

Q. I am not asking you about what you now call an aerator; you seem to distinguish between the two. I am asking how long ago, when, did you employ the art of having a stream of water passing through a jet or a nozzle for sucking in air, letting the air and water pass into a chamber, and then being discharged to atmosphere.

A. I do not know exactly what you mean, because those water pumps have been doing that business for decades. So when I applied for my own water pump, of which I suppose you have a copy of the patent, it was, I suppose, sometime before 1930—I don't remember exactly—before 1930, and it was designed to create a vacuum.

Q. Now that water pump which you say you worked with sometime in the thirties or thereabouts, that included a diaphragm having a plurality of openings in it; correct?

A. Yes, it did.

Q. And the water under pressure was forced through those openings in the diaphragm; correct?
(Tr. 186):

A. Yes, but each streamlet engaged itself into a narrow throat immediately below the streamlet, so as to flood the chamber and create a vacuum. In other words, those streamlets from the so-called diaphragm, or its equivalent, entered each streamlet into an individual channel which it flooded, and below the channel there was no orifice for air entrance whatsoever.

Q. Now you have talked about flooding the throat in connection with your own patent, Figure 8; correct?

A. Yes.

Q. And is it your position now that Figure 8 of your first patent is what you might call a pump?

A. A vacuum-producing device, yes, a pump.

• • •

(Tr. 187):

Q. In Figure 8 of your patent, the patent in suit, you say that is a pump?

A. That is a pump; that is a vacuum-producing device.

Q. And the rest of the devices, the various six or seven different devices, they are what you call aerators?

(Tr. 188):

A. Exactly.

• • •

(Tr. 196):

Q. I hand you a copy of Aghnides' Patent No. 1,912,113 and I will ask you if that is the water pump that you referred to?

A. Yes, that is one.

Q. And that is adapted to be attached to a faucet?

A. Yes.

Q. A faucet of the kind I hold in my hand, just an ordinary water tap?

A. Just an ordinary faucet.

• • •

(Tr. 197):

Q. (By Mr. Freeman): Do you find in your patent 1,912,113, which we will offer in evidence, so I can identify it further, as Defendant's Exhibit 15, do you find in the structure there shown a mechanism for attachment to the discharge end of an ordinary household faucet?

A. Yes, I do.

(The patent referred to was received in evidence as Defendant's Exhibit 15.)

Q. And do you find a diaphragm extending across that member somewhat below the bottom of the faucet?

A. Yes, there is an equivalent of a diaphragm.

The Court: What number does that bear?

Mr. Freeman: The patent doesn't give it a number, but the diaphragm has four openings through there, which are referred to by the reference numeral "7".

Q. That is true, is it not?

A. "7" with a dot on the top—prime.

Q. Yes, 7, 7', and 7".

(Tr. 198):

A. 7' is below—7".

Q. The diaphragm has no number; however, there are shown openings in the diaphragm which are numbered 7 and 7"; correct?

A. Yes.

Q. And the lower ends of the openings 7 and 7" discharge jets of water into a channel which is smaller at the top than at the bottom, marked with number 7'; is that correct?

A. Not quite. I would say that each streamlet—I would say below each orifice in the so-called diaphragm there is a corresponding individual channel.

Q. And the water passes through those individual channels which are hung on to the bottom of the diaphragm and direct a jet of water into the portion marked 7'; correct?

A. Yes, the water from the orifice 7 goes into the narrow throat or channel 7'.

Q. And with it air is sucked in through the conduit 5; correct?

A. There is some air going through channel 7', yes.

Q. Well, that is a partial answer. The air is sucked in through the opening of the conduit 5?

A. If some air is going it means it is sucked in, yes.

The Court: He asked you if it was sucked in through the conduit 5.

(Tr. 199):

The Witness: Yes, it is.

Q. (By Mr. Freeman): That air and water then moves downwardly at a relatively high velocity because of the pressure of the water of the faucet; is that correct?

A. Yes, but the velocity has already slowed down greatly in that gradually enlarging conical chamber 7', but naturally you still have some velocity in order to flow down.

Q. There is still some velocity?

A. No doubt.

Q. Now the water and air, passing from the channel 7', strikes against the pear-shaped member 8, does it not?

A. It does not strike because, as you will see, the pear-shaped member at a certain point has a diameter very close to the diameter of the outlet end of the device, so that the chamber immediately below that conical channel 7' is flooded, as well as the conical channel 7' so that it really does not strike. The water, with slowed-down velocity, arrives and finds in its path the onion-shaped body 8.

* * *

(Tr. 200):

Q. (By Mr. Freeman): Does that pear-shaped member, on the upper surface, engage the water and air in any fashion?

A. I did not understand the question.

Mr. Freeman: Will you read it?

(Question read by the reporter.)

The Witness: What do you mean by engaging air and water?

Q. (By Mr. Freeman): Does it make contact with it?

A. Certainly, they touch it and go around it.

Q. In the act of touching it and going around it, does it offer any resistance to the downward flow of water before it is discharged through the opening 11?

A. Certainly; enough resistance to flood the chamber above.

Q. So it does offer resistance?

A. Yes, just the resistance required by a water pump.

• • •

(Tr. 203):

Q. The object of the device as shown in Defendant's Exhibit 15 is to take the air out of a container 5, or a container which connects up to the pipe 5?

A. Yes.

Q. And air within that pipe must ultimately be discharged through the opening 11 of the attachment to the faucet; correct?

A. Yes, as much as it can. In other words, if the efficiency of the pump creates a vacuum of eighty percent, there would be left a little air in that chamber. Absolute vacuum is extremely difficult to create, so you create practically total vacuum.

• • •

(Tr. 204):

Q. Will you go along with me that some air and some water has been intermixed and goes out through the opening 11?

A. Yes.

Q. Now you will go along with me that the onion-shaped member 8, or pear-shaped, as it is called in the patent, offers some resistance to the downward flow of

water between the faucet 3 and the discharge opening 11 in the lower end of the device?

A. I would say it offers great resistance.

Q. And that resistance would bring about a mixing of whatever air was entrained with the water with the water; correct?

A. Yes. There is so little air that really mixing does not become a problem because the air, as I was saying this morning, and the water have two specific weights, way apart, the air very light, the water very heavy, the air not soluble in water, so the little amount of air gets out with the water certainly in some mixture.

(Tr. 205):

Q. Whatever amount of air and water comes out collectively from the conduit 7, it is met with a certain resistance brought about by the onion-shaped member 8; is that correct?

A. Yes, some water and some air.

Q. Then below the onion-shaped member we have an enlarged portion which then contracts downwardly and inwardly and defines a relatively small opening 11; correct?

A. Yes.

• • •

(Tr. 208):

Q. Let me ask you was there any function or purpose of contracting the casing at the lower end so that the opening 8 would be smaller in cross sectional area than the overall cross section of the chamber immediately there above, the opening 11?

A. Well, that also to offer additional resistance so that surely the device is flooded above the onion in the channels before it is discharged, to create a piston effect.

Q. In other words, the contracting of the lower end offers resistance to the water that flows out?

A. When you go to such small dimension, yes.

Q. And that resistance is brought about from the sidewalls of the chamber?

A. Yes.

Q. And if I were to put some screens across the discharge opening 11 would that offer additional resistance? (Tr. 209):

A. It would offer additional resistance.

Q. And if I put two screens on I would have still more additional resistance created?

A. You would.

Q. And it is a fact that in this particular patent you so state, that screens may be used?

A. Yes.

Q. And that you find on line 95, page 1, column 2, wherein you state "Preferably the outlet 11 will be provided with a wire gauze acting as an anti-splash device"; correct?

A. Yes, certainly.

Q. And in such case, when using a wire gauze or screen, you then add additional resistance?

A. I do.

Q. Do those screens which you say can be mounted on outlet 11 also serve as anti-splash devices?

A. They may prevent splash. Indeed screens are being used in ordinary faucets, without any air, to prevent splash.

Q. In other words, the idea of preventing water from splashing when it leaves the spigot or faucet is not, of itself, new with you?

A. With ordinary water, no.

Q. There isn't any difference in the terminology—and (Tr. 210):

I can save some time if you accept my statement that in your British patent corresponding to your Exhibit 15 (Defendant's Exhibit 15) you refer to the wire gauze as

being for an anti-splash device, whereas in this case, Exhibit 15, your United States patent, you use the term "anti-spout" device—and I am now going to ask you if there is any difference there between.

A. I didn't intend to give any difference.

Q. Does an anti-splash device tend to restrict and hold the water in a column as distinguished from splashing in all directions when it leaves the spigot or tap?

A. May I have that question.

Mr. Freeman: Read the question.

(Question read by the reporter.)

The Witness: It does; but there is one "but".

Q. Go ahead with the "but".

A. When you put on an anti-splash device with ordinary water and make it more uniform, the little amount of air that was touching a stream of water will be eliminated, so the water will be even more flat, or flatter, even though it will not splash when you put an anti-splash screen on an ordinary faucet. The stream of water, in its quality, not only will not be improved, but it will be a little worse, but, for practical purposes, it is advisable that it should not splash.

(Tr. 211):

Q. But you do go along with me with the idea that screens that offer some resistance to the water, when mounted on the bottom of a faucet, serve as an anti-splash device and maintain the water in a more definite column; correct?

A. Yes, I will.

• • •

(Tr. 256):

Q. (By Mr. Freeman): Will you agree with me, talking about your claim now, that it is your position that the screens break up the water?

A. The resistance means, which in this case is the screens, break up the water, yes.

(Tr. 257):

Q. Will you agree with me that the screens break up the water?

A. I answered that.

The Court: He's answered that.

Mr. Freeman: He is talking about another element of the claim, as you go on down.

Q. (By Mr. Freeman): What is the resistance means referred to in claim 1?

A. The screens.

Q. The same screens?

A. The same screens.

Q. So the screens have two functions, of breaking up the water and offering sufficient resistance; correct?

A. Yes.

Q. Then what brings about the portion of the claim for thereafter uniting the aerated water?

A. They unite the aerated water.

Q. What is the means for doing that, the structure?

A. Yes; in other words, the structure of the means should be such that after breaking they should unite the water, and the screens do the job.

Q. That's talking about the end result. I was asking you what the structure is that brings that about.

A. In this case the structure is screens.

(Tr. 258):

Q. So the screens, then, have the added purpose—

A. Yes, has all the purposes described in the means description of my claim.

Q. And, in so far as claim 1 is concerned, the water forms in a coherent jet, and that is done again by the screens; correct?

A. The screens do the whole job described by the means, yes.

Q. In other words, the two screens do the entire job of finely breaking up the water; second, offering sufficient resistance; third, thereafter uniting the aerated water; and, fourth, it forms the water into a coherent jet—correct?

A. Everything that is described is done by the screens.

Q. The two screens?

A. By the two screens, providing those two screens are proportioned with the orifices in the diaphragm 36.

Q. And I take it that the same reading of claim 1 with respect to the means clause would be accomplished by a single screen?

A. I am sorry, I did not understand the question.

Mr. Freeman: Read the question, please.

(Question read by the reporter.)

The Witness: If the two parts, the diaphragm 36 and the screen below are proportioned, yes.

(Tr. 259):

Q. Now you qualified that by telling me that the means clause would read on a single screen, providing something was done with respect to the upper diaphragm; correct?

A. If the screen is of a type required, yes; if the screen offers sufficient resistance with the velocity of the streamlets issuing from the diaphragm, yes. If the single screen does not, then you have to put a second screen or a third.

Q. If I were to make the device with the single screen that you showed in Figure 1 and it did not, as you say, bring about the end result, that is, breaking up the water, offering sufficient resistance, uniting the water, and bringing it out in the form of a coherent stream, where would I find the teaching to utilize two screens?

A. I am afraid I do not understand his question.

The Court: Read it to him again.

(Question read by the reporter.)

The Witness: In my patent you would find the teaching to make it with one or two screens, or three or four.

Q. (By Mr. Freeman): Now is it your position that the structure shown in Figure 1, with a single upper diaphragm and a single screen at the bottom end, shows an operative construction?

A. It can be made to operate perfectly well.

(Tr. 260):

Q. No, I am asking you—

A. It does show—

Q. I know I can make things to work. I know I can make things to not work, but I am asking you, if I made a device exactly as you have in Figure 1, would I have an operative construction.

A. Yes, you would.

Q. Would I have a means for uniting the water?

A. Yes.

Q. And that is the single screen?

A. Yes. If the single screen does not offer sufficient resistance to unite itself, then the restricted orifice below would help to unite.

Q. No, I am not talking about the restricted orifice. Claim 1 doesn't include a restricted orifice, according to your definition.

A. Oh, yes, it may include.

Q. Claim 1 may include also—

A. Certainly it may. It says "and for uniting" the stream, the means.

Q. Are you now telling us that, in addition to the screens, the two screens which you were talking about in Figure 4, the restricted orifice at the lower end is part of that means?

A. It could be.

(Tr. 261):

Q. I am not asking you whether it could be. Is it?

A. The claim says means for uniting, which is either

sufficient resistance offered by the screens, or a restricted orifice, or any other means.

Q. In other words, I can take my choice as to whether I want screens to do the whole job or whether I want to bring about a coherent stream by contracting the lower end of the casing?

A. Yes, it is teaching that you can take your choice.

The Court: If both of the screens shown in Figure 4 at the outlet end were removed, is it your opinion, then, that a restricted orifice alone would be sufficient to give you a coherent stream of aerated water?

The Witness: It wouldn't be a good stream and the streamlets then, Your Honor—as you see, diaphragm 36 shows vertical streamlets—those would go directly out and we would not have a coherent stream.

The Court: There is one thing that isn't clear in my mind. That is, according to Figure 4, if I understood your evidence a while ago correctly, if you employ those two screens shown in Figure 4 you would have your coherent, aerated stream of water emitting therefrom without regard to the restricted orifice at the bottom of the device?

The Witness: Yes, sir.

(Tr. 262):

The Court: But now, then, if you removed one of those screens and undertook to get the same result by using the remaining one, in that case you would need a restricted orifice to assist in order to get an aerated stream of water, coherent?

The Witness: You may, you may not, depending on the screen weave, you see, and the proportioning of the orifices in 36 but it would be rather difficult, if you didn't make any other breaking of the water before, to make an aerator with one diaphragm and just one screen and the streamlets would be striking direct to the screen; then it would be more difficult to obtain, but it is feasible.

Q. (By Mr. Freeman): Can we agree that, in so far as the means clause of claim 1, it does not include the contracted or restricted outlet end of the casing shown in either Figure 1 or Figure 4 of your first patent?

A. Claim 1 says means for uniting. Those means could be either additional screens or a contraction at the outlet end.

Q. My question was—I am going to ask the reporter to read it.

The Court: Read the question and the answer.

(Question and answer read by the reporter.)

Q. Optional—correct?

(Tr. 263):

A. Yes; or it can be both.

Q. Now you said something about Figure 1, when you had a single screen, that it had to be proportioned with respect to the diaphragm above the chamber; correct?

A. Yes, in each case the resistance has to be proportioned to the stream velocity.

Q. What is the proportion; what is in your patent? Turning to the four corners of your patent, will you read to the Court what you there say the proportion should be?

A. The patent gives a distinct example of proportioning with dimeisions shown by the hose-bib faucet in Figure 4. The dimensions of a hose-bib faucet are known and standard. Therefore the aerator shown in Figure 4 attached to that faucet shows the proportions and the dimensions of an aerator by indicating in the patent that the screens used in that aerator may have .6 square millimeter openings, and the dimensions of the holes in the diaphragm 36 are shown to be very small and they can be measured, and with the size shown the device will operate, as we have demonstrated the other day, a construction built according to Figure 4 and with the dimensions shown.

Q. Would you say that the size of the mesh of the

screens at the lower end is not critical?

A. Not critical with the limits. I indicated there what (Tr. 264):

I obtained, or I gave the disclosure which kind of screen would operate. Now, if you select lighter or heavier screens, the patent illustrates how you can operate, if you follow my construction, with different screens.

Q. Isn't it a fact that if I use a screen of one size, or two screens having the same size foramina, that the upper diaphragm openings would have to be of a different size?

A. I am afraid I don't understand the beginning of your question.

The Court: Read the question to him.

(Question read by the reporter.)

Q. In other words, would they have to be proportioned?

A. Yes, but the resistance offered by your screens, the velocity of the streamlets issuing from diaphragm 36 has to be proportioned to that resistance.

Q. Where would you start in making one of these devices; with the upper diaphragm; correct?

A. If you wish.

Q. I am trying to make one of these devices. I start with an opening in the upper diaphragm—correct—a single opening?

A. You want to make a single-opening diaphragm?

Q. Yes, I want to make a single-opening diaphragm. What size screen do I use?

(Tr. 265):

A. The patent says that you can use one or more screens. So, if you have a few screens in your hand, you put one; you see it is too little; you put two, three, four, until you find exactly the resistance required for your single stream. All the teaching is there.

Q. If I used a single opening, say, having half the diameter of the faucet opening, I would have to use screens at the lower end that would bring about the end result; correct?

A. I never said that, because when you say half the diameter of the faucet inlet or orifice is variable from one faucet to another. I can't answer those questions.

Q. Then let's take a diaphragm that has an opening in it of a quarter-inch.

A. Whatever your opening, if your opening gives substantial velocity—

Q. I am taking an opening one-quarter inch in a diaphragm and I am putting thirty pounds of pressure back of it. It will come out with substantial velocity, will it not?

A. I do not feel able to answer that question because I do not know what kind of screens you put.

Q. No, I am just asking you now, as a fact, if I take a faucet and put an orifice or diaphragm having an opening (Tr. 266):
therein, a single one, as called for in your claim, and it is a quarter-inch in diameter, thirty pounds head pressure, will the water come out with velocity?

A. Your opening was quarter-inch?

Q. Yes.

A. Probably not.

Q. Well, could I, in that case, add additional screens, that is, two, three, or four screens in order to get the end result?

A. I am afraid, for that amount of back pressure you mention, the opening of quarter-inch may be too big.

Q. Then let's reduce it to seven thirty-seconds of an inch, one thirty-second less than a quarter-inch. Would that be all right?

A. One has to make and see; I don't know.

Q. In other words, "make and see" is the answer?

A. When you want to depart from the construction shown to be perfectly operative, then naturally you will have to experiment and find out what will happen, if your fancy takes you to make something entirely different from what the invention indicates you to do.

• • •

(Tr. 280);

The Court: If the screen were entirely removed here, what would be the result? I mean 28.

Mr. Freeman: That's right; that's what we are talking about, the defendant's structure.

The Witness: Then the stream would not be as coherent as it would be with the screen 28, and it would not be as soft as it would be with the screen 28.

The Court: What about the volume of air in it with the number 28 removed, as compared to the case if 28 remained in it, if you have an opinion about it?

The Witness: The volume of air?

The Court: Yes.

The Witness: If the screen 28 is removed, maybe even more than with the screen on, but that air would readily separate from the stream as the stream is discharged from (Tr. 281):
the device.

• • •

(Tr. 282):

Q. Can we agree that the onion 26 and the wall 27 bring about more aerated water or mixing than what is discharged through the screen, because, as you have stated, the screen eliminates some of that aeration—correct?

A. Yes, I would say that without the screen 28 a little more air would be drawn out of the device as the water is

discharged.

• • •

(Tr. 300):

Q. Could you make your aerator so that it would attach and coincide with the size of the faucet, just as you have in Figure 4?

A. Yes, I could.

Q. You see in Figure 4 you show your casing the same size as the faucet outlet?

A. Yes.

Q. And in Figure 1 you show the casing at about half size with respect to the mixing chamber diameter; correct?

A. The faucet? Yes, it seems much smaller there.

Q. I am going to ask you if we take a two-inch diameter faucet—and there are many of those—could I then put on an aerator having a mixing chamber of the same diameter?

A. Mixing chamber of the same diameter? Yes, sir.

Q. And in that case I would have to reproportion the screens and the diaphragms?

A. No, sir, not at all; you don't have to reproportion at all.

Q. How about if I wanted to aerate water coming out of a fire hose that's about five inches in diameter, could I then put an aerator having a mixing chamber of the same diameter as the outlet of the hose?

A. You could.

Q. And that would just be a larger screen and a larger

(Tr. 301):

diaphragm; correct?

A. Yes; as long as you wanted the diameter of the aerator to be the same, then you have to put the corresponding screen in the path of the water.

• • •

(Tr. 352):

Q. I now hand you a photostat of a portion of your Figure 3 of your second patent, which we have marked as (Tr. 353):
Defendant's Exhibit 36 and will ask you to state if the structure there shown is an embodiment of claim 4 of your first patent.

A. Of claim 4?

Q. Yes, sir.

A. It could be.

Q. Well, is it or is it not?

A. Yes, it could be, it is.

(the photostat referred to was received in evidence as Defendant's Exhibit 36.)

Q. In other words, the figure that I gave you, Defendant's Exhibit 36, includes an apertured diaphragm, does it not?

A. Yes.

Q. And it includes a mixing chamber there below—correct?

A. Yes.

Q. And it includes a plurality of screens?

A. It does.

Q. Now in the case that you have there the apertured diaphragm is a single hole—correct?

A. Right.

• • •

(Tr. 355):

Q. Now, in so far as the structure that you have in Defendant's Exhibit 36, that is an apertured diaphragm that comprises only a single hole; correct?

A. That is what we see there, yes.

Q. And the remainder of the structure, in combination with that apertured diaphragm of a single hole, is, as you say, covered by claim 4 of your first patent; correct?

A. I would say the whole structure is covered by claim 4 of my first patent.

Q. All right, we agree on that. Can we likewise agree that the whole structure there is covered by claims 1, 2, and 3, also?

A. Yes.

Q. Now the structure that you have, as exemplified in Defendant's Exhibit 36, was the basis of the coverage of your first patent; correct?

A. I don't understand what you mean, the basis of coverage of my first patent.

Q. Well, an embodiment of the kind that you have in Defendant's 36 would, in your opinion, read directly on the first patent?

A. Yes, the first patent would read on it.

Q. And it was to that patent or that type of structure that you made your so-called improvement of the second patent; correct?

(Tr. 356):

A. I made the improvement of my second patent on different constructions I have shown.

Q. Now to the structure of Defendant's Exhibit 36 you added a restricted orifice upstream of that apertured diaphragm; correct?

A. I did.

Q. And you also, in addition to the restricted orifice, added a foraminous member upstream of the apertured diaphragm; correct?

A. I don't follow you, because you asked me if I added the restricted orifice and I said yes.

Q. And I also asked you if it is not a fact that your second patent likewise includes a foraminous member upstream of the apertured diaphragm.

A. That is not shown in the Exhibit 36 you gave me, but I see it in Figure 2.

Q. I am just asking you what your second patent covered. Isn't it a fact that you added a restricted orifice upstream of the apertured diaphragm?

A. I did.

Q. Now isn't it a fact that you likewise added a foraminous member upstream of the apertured diaphragm?

A. In my improvement patent, yes, I did.

(Tr. 357):

Q. I am talking about your second patent.

A. Yes.

• • •

(Tr. 374):

Q. Mr. Aghnides, will you turn to your first patent, which is Exhibit 11, I believe. Do you recall telling the Court that Figure 6 of that patent corresponded closest to defendant's structure; correct?

A. Yes, I do.

Q. Now when did you first make a device that had projections that extended in from the sides of the casing for

(Tr. 375):

impingement of the water thereon?

A. Oh, at the very early stage of my invention.

Q. When; do you have any idea?

A. That could be in 1934, '35.

Q. Now when you filed your application in Belgium in December of 1934 you did not show any device wherein the water impinged against projections on the side of the casing; correct?

A. I don't think I did.

• • •

(Tr. 380):

Q. Mr. Aghnides, my question is directed to Figure 6.

A. Yes, I understand.

Q. It is a fact that you there show in the aperture 56 openings that are at an angle in respect to vertical, so

that the jets project outwardly at an angle against the projections on the casing; correct?
(Tr. 381):

A. Correct.

Q. And you do not find any such structure in the Belgian patent nor do you find such structure in the first U. S. application, do you?

A. No, I do not find such a diaphragm with slanted orifices.

Q. Nor do you find projections to take the inclined or angular jets of water for finely breaking up the water and mixing it with air, do you?

A. No, I do not have that diaphragm in the specific construction of Figure 6 of my patent, but I have shown direct streams, vertical streams, which are able to strike baffles.

Q. Do you know when you first made a physical device of that kind, corresponding to Figure 6?

A. Oh, that must be very early, when I discovered the invention.

Q. When did you first bring that particular form of device into these United States?

A. You mean the device, the sample itself?

Q. No; either the device or a drawing of the device, corresponding to Figure 6, when did you first bring that into the United States?

A. I had the experience of this in Belgium and when I made the re-writing of this patent I thought it would be
(Tr. 382):
good to put it in, because I knew it would work that way too.

Q. You didn't put it in this application until December 31, 1937; correct?

A. Yes.

* * *

(Tr. 399):

Q. (By Mr. Freeman): Just before our noon recess we were talking about the Figure 6 of the first patent, No. 2,210,846, and I note there is a screen 62 at the lower end of that figure; correct?

A. Yes, sir.

Q. Now when you filed your application on December 31, 1937, and first presented Figure 6 to the United States Patent Office on that date, isn't it a fact that you told the Patent Office that the screen is not essential but that it is advisable to use it?

A. Yes, I think that the patent says so.

Q. In other words, in connection with Figure 6, when you first filed your application, in connection with 62, which is the screen, you stated "Here again it is advisable, but not essential, to use a screen as indicated by 62." Correct?

A. Yes.

Q. Now had you tried devices corresponding to Figure 6 without a screen prior to the time you filed your application of December 31, 1937?

A. Yes, I had.

Q. And you found that it was not necessarily essential

(Tr. 400):

to have a screen?

A. Yes, I had found that I could build the embodiment of Figure 6 without a screen.

Q. And without the embodiment of a screen, 62, the drawing is correct, showing the water in jet formation as being broken up solely by the shoulders or projections within the casing; correct?

A. Yes, if you take the screen out all we have are the shoulders upon which the streamlets break up.

Q. And would that give you aeration?

A. Yes, it would give you aeration. Maybe you have to build the shoulders a little wider in order to make a better

stream, but certainly it would produce a bubbly stream.

Q. Without a screen?

A. Without a screen.

Q. And that is what you told the Patent Office when you filed the application which resulted in the first patent in suit; correct?

A. Yes.

• • •

(Tr. 403):

REDIRECT EXAMINATION

• • •

(Tr. 419):

Q. What do you have to say with respect to a remark made by the Circuit Court of the Seventh Circuit that, element for element, the Aghnides and Felten devices are the same?

A. Well, I think I have explained at the beginning, first of all, that Felten has a suction-producing section, which is above this line, which we do not find in the aerator. So

(Tr. 420):

there is one element which is not in existence in the Aghnides aerator. Two, when we take the mixing chambers of the two devices below that line, we find elements in one that we do not find in the other; in other words, in Felten's mixing chamber there is one orifice through which your air and water enter that mixing chamber and there is no opening right to the atmosphere that would communicate the outside air with that mixing chamber, whereas in the Aghnides aerator we have independent air vents from the orifices that deliver water in the chamber. So we do not have, element for element, the same thing at all.

• • •

(Tr. 421):

Q. Now the Court of Appeals of the Seventh Circuit

said that the two devices, that is, the Felten vacuum pump (Tr. 422):

and your aerator, accomplished the same results, though perhaps not with equal efficiency. What have you got to say to that, Mr. Aghnides?

Mr. Freeman: Are you asking him that as a patent expert, or just his opinion of what the Court of Appeals in the Seventh Circuit said?

Mr. Ely: I am asking him what he has to say as to whether the two devices accomplish the same result, though perhaps not with equal efficiency.

The Court: I will let him go ahead and comment on his view of his device and Felten's, as connected with what was said by the Circuit Court, but, of course, I am not going to let him pass on the law as interpreted by the Court of Appeals of the Seventh Circuit—just what he has to say with reference to these two devices.

A. The results are totally different because—and we can prove it in this court—because the Felten device entrains so little air, and the aerator entrains not only one, twenty, fifty or a hundred per cent more, but hundreds of per cent more. So it's not a question of more or less. You have a new principle, too, which is such a radical difference from the results given by the Felten. We know that, as I have given the example before, the ordinary propeller airplane could go up to three hundred miles; to make it go over six hundred they had to invent the jet plane. Here we don't make it from three hundred (Tr. 423):

to six, but make it from three hundred to twelve hundred, four times more, so it has to be different, as we shall see during the performance of this demonstration; that, due to the difference in mode of operation and in structure, the results are also radically different.

• • •

(CROSS EXAMINATION INTERPOSED)

(Tr. 471):

Mr. Freeman: I noticed that you didn't run the Felten model by itself, without the vacuum-testing rig attached to it.

Mr. Hamilton: We are just getting to that.

Q. (By Mr. Ely): Now, Mr. Aghnides, will you please put the Felten model, Plaintiff's Exhibit 44, on the tank and operate it and show to the Court the character and volume of the stream produced. In this case I want the opening which is normally connected to a chamber to be evacuated to be open to the atmosphere and I want the pin which is halfway down the device left in place.

A. Now we have the Felten pump without the lateral pipe being closed; it's open to the atmosphere, which wasn't intended to be, but we are going to operate it so that, instead of ozone and air, air alone, atmospheric air alone,

(Tr. 472):

will go through.

Q. That is, there is a free admission of air from the atmosphere into the interior of the device; is that correct?

A. That's right. (Demonstrates with model on faucet)

Q. Tell us the character of the stream.

A. We have a stream which contains some air. I shall give the glass test. When the glass is filled it doesn't empty itself out rapidly, showing that there is very little air in the Felten stream.

Then we shall test now with the jar, and we shall see that the Felten stream does not splash and it does have some bubbles.

• • •

(Tr. 483):

Mr. Freeman: Now will you take the vacuum-test gauge off?

(Witness complies with request of counsel.)

Mr. Freeman: You are getting some aeration now, aren't you?

The Witness: Yes. We did get some with four.

Mr. Freeman: You are getting far better with one basket than you did with the four?

The Witness: Some better, yes, sir.

Mr. Freeman: You are getting water coming out which is whitish in color, aerated?

The Witness: Now.

Mr. Freeman: Would I do better if I had two openings for air inlet instead of one?

The Witness If there is such a pump available we shall be glad to test it, but I do not think that would make such special difference as we have seen with the aerators.

Mr. Freeman: Would you be kind enough to hold your finger on the normal air inlet of what you call the pump and then take the little plug out you put in as an extra, and then demonstrate it with only one basket in it? Now put your finger on it and start it up without the plug.

(Tr. 484):

(Witness complies with request of counsel.)

Mr. Freeman: Is it giving a relatively good aerated stream now?

The Witness: It's a much grayer stream delivered when the orifice was above, and we see some water coming out of the orifice.

Mr. Ely: What orifice? Out of the lower orifice.

Mr. Freeman: What would have happened had you had two orifices, so that you had twice the admission of air into the device than what you have there?

The Witness: Well, we would have had more air coming out—more water coming out.

Mr. Freeman: More aerated water?

The Witness: No; more water coming out the lower orifice.

Mr. Freeman: Is it your position, Mr. Aghnides, that with the extra openings you put in this model you would have more water coming out?

The Witness: Yes.

Mr. Freeman: Would you have more water coming out if you moved the opening down a little bit?

The Witness: If we move further down the opening?

Mr. Freeman: Yes, sir, toward the downstream end.

The Witness: More water would come out.

(Tr. 485):

Mr. Freeman: If you moved it up a little would you have more or less water coming out?

The Witness: Have less.

Mr. Freeman: So it does depend on where you put the opening as to the amount of water that would come out?

The Witness: Yes, sir; in other words, the displacement of water in the pump shows that the more you lower it, the more water will be spitting out of the orifice and the less vacuum will be created.

Mr. Freeman: In order to be fair, I'd like to have you put in two baskets and let's see what happens. This is all news to me, so I am asking only as a matter of enlightenment.

The Witness: (Demonstrating with model as requested) Now we see clearly there is hardly any air in the stream—I would say there is no air in the stream—and we see the water squirting out from that lower orifice.

Mr. Freeman: In other words, Mr. Aghnides, as you increased the resistance you began to flood the chamber and more water came out?

The Witness: That's right.

Mr. Freeman: And as we decreased the resistance by using only one baffle, or divider, or whatever you want to call it, there was less resistance and less water coming

(Tr. 486):
out of the spout?

The Witness: Yes, sir.

Mr. Freeman: And more aeration?

The Witness: More aeration, but still insufficient aeration.

Mr. Freeman: And we are both now talking about the demonstration of your model that you call the Felten pump; correct?

The Witness: Yes, sir.

Mr. Freeman: Now we found the same to be true with the Spring-Flo, or was it the Velva-Flo, last January; when we put in a plurality of screens, one on top of the other, we had too great resistance and the chamber filled up and water came out of the inlet openings; correct?

The Witness: Yes, we did.

Mr. Freeman: And last January, when we decreased the number of screens so that we had less resistance, the chamber did not fill up and water did not come out?

The Witness: Yes. Now I shall answer, if I may. Here we have applied the teaching of my patent about proportioning resistance, but, even then, because of the flooding, we could not put the orifice where we wanted it. When the orifice was lower down, then the aeration greatly decreased from what it would be in the upper position. So it is incorrect to say, even when the structure has been
(Tr. 487):
modified in accordance with the teaching of my patent—even then the amount of air going through the device is variable, according to the position of the orifice, whereas that condition does not exist in the aerator.

• • •

(Tr. 493):

Mr. Freeman: I am going to ask for a demonstration.

Mr. Ely: All right, sir, go ahead.

Mr. Freeman: I am wondering if you would take the

twenty-one screens off and just use what you call member 56 on your Exhibit 57 and just run some water through it.

The Witness: (Demonstrating as requested) Here we have the usual Felten stream as we have seen before with the transparent model.

Mr. Freeman: Is that a whitish stream that is coming out of there?

The Witness: It is a whitish stream.

Mr. Freeman: And is it coherent?

The Witness: It is coherent. So is this. Any stream—

Mr. Freeman: I was just asking the question was it a coherent stream.

The Witness: All right; yes.

(Tr. 494):

Mr. Freeman: Can you demonstrate that model with only one of the Felten discs in the bottom?

The Witness: Yes. (Demonstrates model as requested) Now we have in the Felten pump one basket instead of four, and we have a vacillating stream of water coming out.

Mr. Freeman: Is it whitish in color?

The Witness: It is whitish in color.

Mr. Freeman: Is there some air mixed with the water?

The Witness: Definitely there is.

* * *

(Tr. 496):

Mr. Freeman: Mr. Aghnides, to make the matter simple, I have here a drawing that I made which indicates two openings of different diameters; one is twice as large as the other, as close as I could do it with my eye—

* * *

(Tr. 497):

The Witness: What is the question. I see the drawing and the orifices.

Mr. Freeman: Water extends in through the orifice A in the direction indicated by the arrow on top of the drawing. Now, with that proposal, I am going to put an air inlet into the diaphragm, or into that member that has the letter "A" in it, and then I am going to put another one into the member that has the letter "B" in it, and I am going to ask you which one will take in more air, water coming into A at thirty pounds pressure.

The Witness: Frankly, without experimenting, I would be unable to say, because I would think that water might come out of that orifice that is leading into the narrow opening.

Mr. Freeman: Isn't it a fact that if water came from the orifice A it would go into the opening B with considerable space all around it?

(Tr. 498):

The Witness: Yes, sir, at least at the portion near to that smaller orifice.

Mr. Freeman: So that you would then have a jet of water defined by the diameter of the orifice A moving into an enlarged space B; correct?

The Witness: Well, that can not be said also, whether it is correct or not, because it will depend on the diameter with respect to the thickness to know, and also on the pressure, to know whether the stream will be cylindrical or it will spread out to become conical in the chamber. There ar too many unknowns to answer.

Mr. Freeman: Just answer my question. It is a fact that as the water leaves the orifice A, just as it enters that which we will call the orifice B, the enlarged opening, four to one, isn't it a fact that you will then have a column of water with space all around it?

The Witness: Just as it leaves, yes, I think there will be a space at the point it leaves the orifice A.

Mr. Freeman: Now, so that we have something of record here, I am going to call the air inlet that goes into A by the reference numeral 1 and the one that goes into the portion B that we have now talked about as number 2. And it was your statement that the water might spread out by the time it got down to the air inlet 2; correct? (Tr. 499):

The Witness: It might; I don't know.

Mr. Freeman: Now would I take in more air if I put my opening at the exact top of the enlargement and just below the upper edge of the orifice B—and that one I am going to mark 3—would we take in more air in 3 than we would in 1?

The Witness: My first reply was, about the 1, that I do not know whether the water would come out that orifice instead of pulling air in.

Mr. Freeman: My question was, in the example I have given you, will you take in more air from 3 into B than you will from 1 into A.

The Witness: How can I answer that when I don't know whether any air or much air will be going through 1? Here we have a truncated thing.

Mr. Freeman: I am not talking about a truncated thing. I have given you a concrete example and I am merely asking you now whether you will get more air from 1 into A than you will from 3 into B.

The Witness: I am unable to say, because this does not correspond to any of the constructions we built experimentally and know what it is all about; this is something new, and I am unable to pass this examination, because it is very theoretical.

(Tr. 500):

Mr. Freeman: You can't answer that, can you?

The Witness: No.

Mr. Freeman: Will you agree with me that the stream of water passing through A will, at the lower end of the orifice A, project in the form of a column or stream or jet?

The Witness: I would think so.

Mr. Freeman: And will you agree that between that jet there is space that is not filled with water?

The Witness: Yes, at the point nearest to that orfice I think there will be some space.

Mr. Freeman: And will you agree that, because of the pressure drop between A and B when the water is being forced in at thirty pounds, it will cause a partial vacuum and suck in air through the opening 3?

The Witness: I would think so.

Mr. Freeman: Now my opening 1 into A indicates that the air, if any, being drawn in would have to be drawn into and against the column of water which we have agreed entirely fills the space A; correct?

The Witness: I would think so. I don't know.

Mr. Freeman: So that can we from that agree that there would be air coming in at 3 and very little air coming in at 1?

(Tr. 501):

The Witness: I answered that before, that not knowing how much air would come in through 1—.

Mr. Freeman: Then I am going to ask you, Mr. Aghnides, why it was that when you made your plastic model you ran the air-inlet opening into that portion of the diaphragm which produces the jet of water and not into the chamber below the diaphragm, whereas in your Exhibit 57 the air inlet goes into the upper portion of the mixing chamber—why the difference?

The Witness: I would like to see the drawing of the plastic model.

Mr. Freeman: Don't look at the drawing; look at the plastic model.

The Witness: Well, we will look at the plastic model too.

Mr. Freeman: I have got a little piece of wire and I just want you to take off the bottom, and you will note that the enlarged opening where you get a pressure drop terminates short of the air inlet.

The Witness: From what I see with bare eyes, I think you are right, as far as construction is concerned.

Mr. Freeman: That's all.

• • •

(Tr. 503):

AFTERNOON SESSION, OCTOBER 11TH

The Court: All right, proceed.

Mr. Ely: If Your Honor please, in view of what happened just prior to the noon recess, I wish to say this: The difference between the metal model of the Felten device and the plastic model, to which attention was called by Mr. Freeman, is a matter which to us seems entirely insignificant; we don't believe the difference between the two is going to make any change in the operation of the devices. However, we would like, in order to clear that thing up so there will be no argument about it, we would like permission to withdraw Plaintiff's Exhibit No. 44, which is the plastic model, and rework it and put it in the same condition to correspond with the metal model. We would like permission to do that, and then would like to run the test with the change made and show Your Honor that it so works out that there isn't any difference—

The Court: I won't let you withdraw what you already have in. If you want to put in another type, all right but let's keep what we already have in—we have gone through it now—and not withdraw it. If you want to put in another

one to show there isn't any difference, it's all right to do that.

Mr. Ely: I understand, then, that you do not want (Tr. 504):

to let us have the model to make any changes on it?

The Court: Do you want to withdraw it to make some changes?

Mr. Ely: We wanted to take it out and rework the model so as to make that little change which will make it agree with the metal model. We want to drill a couple of holes here a little deeper.

* * *

(Tr. 505):

ELIE P. AGHNIDES, the plaintiff, resumed the stand and testified further as follows:

REDIRECT EXAMINATION (Cont'd)

By Mr. Ely:

Q. Now, Mr. Aghnides, I want you to demonstrate your Aghnides vacuum pump, which is Plaintiff's Exhibit 47, showing the character of the stream, showing the way in which it operates.

A. My vacuum pump is now attached to one of the faucets and we shall turn the water on and see the stream. (Demonstrates model) We see a stream of water, whitish and containing some bubbles, and I shall fill up the glass to see the amount of air that will remain on top. (Demonstrates with glass) When the glass is filled and I withdraw it, one can see that there was very little air in the stream, because the glass is full of water. (Demonstrating with jar under stream) Now the stream coming out of my pump is, like the Felten stream, non-splash and (Tr. 506):

contains some bubbles, as one can see on the glass jar.

* * *

CROSS EXAMINATION

(Tr. 523):

• • •

(Tr. 557):

Q. When I called your attention to Figure 8 of your United States Patent, the patent in suit, and Figure 8 of your abandoned application sometime ago, you disclaimed any part of Figure 8, did you not?

A. Yes. Figure 8 is not an aerator.

Q. And Figure 8 was in the application when it was first filed, in the abandoned application; correct?

A. Yes, of course.

Q. It has never been deleted from your application; correct?

A. It has not.

Q. And it resulted in Figure 8 of the patent in suit, the first patent; correct?

(Tr. 558):

A. Yes.

Q. And the same is true of Figure 9?

A. Correct.

• • •

(Tr. 568):

Q. (By Mr. Freeman): I now hand you another fluid mixing device which is marked "Clean-Stream" and will

(Tr. 569):

ask you to state whether or not that is the device that was involved in the Seventh Circuit in the suit entitled Aghnides versus Rightway and Goodrie.

A. Yes, it seems to be the same device.

• • •

Mr. Freeman: I am going to offer the aerator just identified by the witness as the device involved in the Seventh Circuit as Defendant's Exhibit No. 39.

(The model referred to was received in evidence as Defendant's Exhibit 39.)

Q. (By Mr. Freeman): Mr. Aghnides, for the purpose of illustration only, is the drawing that I am handing you now illustrative of the physical construction of the last exhibit, number 39, or the Goodrie device involved in the Chicago suit?

• • •

(Tr. 571):

The Witness: Yes, this seems to illustrate the general idea of that.

Mr. Freeman: I am going to offer the drawing illustrative of the Goodrie device, Defendant's Exhibit 39, as Defendant's Exhibit 40.

(The drawing referred to was received in evidence as Defendant's Exhibit 40.)

• • •

(Tr. 575):

Q. Does your memory serve you that in connection with the suit in Chicago, the Seventh Circuit suit against Goodrie, you there relied on Figure 6, just as you have done in the case here, as being the closest device of your patent, or representation of your patent, corresponding to defendant's structure.

A. I think so. I did rely on Figure 6.

• • •

(Tr. 597):

J. W. McGARRY, a witness for the plaintiffs, being first duly sworn, testified as follows:

DIRECT EXAMINATION

By Mr. Ely:

Q. Please state your name and residence, Mr. McGarry.

A. My name is J. W. McGarry. I live in Waterbury, Connecticut.

Q. What is your present occupation?

A. I am retired, sir.

Q. What was your former occupation?

A. I was General Sales Manager of the Waterbury Manufacturing Division of the Chase Brass & Copper
(Tr. 598):
Company.

Q. How long had you been with the Chase Brass & Copper Company?

A. Forty-four and a half years.

• • •

(Tr. 601):

CROSS EXAMINATION

By Mr. Freeman:

Q. I show you a copy of Aghnides' patent, the first one, Exhibit 11, and I am going to ask you if your company ever made a device with one apertured diaphragm and a lower screen, just the two pieces.

A. I imagine we did, Mr. Freeman. I have no record—

Q. Well, did you ever sell any of them, an upper one and one lower one?

A. No, sir.

Q. Did you ever sell any—and that is what we are talking about—devices corresponding to Figure 4 of Exhibit 11, one upper diaphragm and two lower screens?

A. No, sir.

Q. Now I call your attention to Figure 3 of the second
(Tr. 602):
patent in suit, Exhibit 12, and will ask you if your device, when you sold it—I am talking about the commercial sales now—included five screens in the lower end of the device.

A. Our devices were all made with the upper and lower

diaphragms and three screens.

Q. In other words, every one of your devices included two upper diaphragms and five lower screens?

A. Included an upper and lower diaphragm and three screens.

Q. That is the only form that you sold?

A. That's right.

Q. So that the device that you sold corresponds to Figure 2 of the second Aghnides patent, Exhibit 12, which shows two upper diaphragms, air-inlet openings below the diaphragms, and three screens at the lower end?

A. That would be my impression.

Mr. Freeman: That's all.

• • •

(Tr. 609):

Mr. Freeman: Are you going to read Mr. Guerber's testimony?

The Court: I asked him to state the substance of it, and you can state the other part.

Mr. Freeman: I would like to read a certain part of

(Tr. 610):

it. You have it in front of you and I would suggest that you turn to page 55.

I am going to state, as an officer of this court, that I would never have withdrawn my misuse defense or abandoned the cross complaint in connection with violation of the anti-trust laws if I was not directed by general counsel for the Kress Company last Thursday afternoon to do just that. If that doesn't indicate control of a lawsuit, I don't know what does.

I want to say to this Court that we are being paid by Melard Manufacturing Company. They are not in control of this lawsuit.

• • •

(Tr. 622):

NORMAN LETTVIN, a witness for the defendant, being first duly sworn, testified as follows:

DIRECT EXAMINATION

By Mr. Freeman:

Q. Will you please state your name?

A. Norman Lettvin.

Q. Where do you reside?

A. Chicago, Illinois.

Q. By whom are you employed?

A. Bair, Freeman & Molinare, patent attorneys.

Q. Your profession?

A. I am a patent attorney.

Q. A lawyer?

A. I am a lawyer.

Q. Briefly, give me your schooling, your educational background.

A. I graduated at Illinois Institute of Technology in Engineering in 1943, and I worked for the National Advisory Committee for Aeronautics' Aircraft Research Laboratory in Cleveland, Ohio, for a period of slightly less than five years, until about September, 1947. During that time I went to night school and I graduated from Cleveland-Marshall Law School in Cleveland, Ohio.

(Tr. 623):

After that I passed the Bar in Ohio and went to work for General Electric Company in Schenectady, New York, as patent attorney, worked for them slightly less than a year and returned to Chicago and started to take graduate work in Engineering at Illinois Institute of Technology.

I then went into the practice of patent law in Chicago, first by myself, and then I was employed by Bair, Freeman

& Molinare, beginning in May, 1949, and I have been with them ever since.

Incidentally, I am a Professional Engineer in the State of Ohio and I have a license, and I have a license as Professional Engineer in the State of Illinois, and am licensed to practice law in the State of Illinois. I am also admitted to practice before the Patent Office.

Q. I was going to ask you, you read and understand drawings?

A. Yes, sir.

Q. You read and understand patents?

A. Yes, sir.

Mr. Ely: I admit the qualifications.

Mr. Freeman: All right, thank you.

Q. (By Mr. Freeman): Mr. Lettvin, I call your attention to the Hyatt patent, U. S. Patent 326,221—

Mr. Freeman: I am going to ask that the Hyatt patent—and I might say, Your Honor, that I am going to offer a group of patents, ten in number, which are all put in one book, and I will offer them collectively as Defendant's Exhibit 44, and then I will refer to the one marked "1" as 44-1, and so on, so that we don't have too many exhibits.

Mr. Ely: Can you give us the names and the numbers?

Mr. Freeman. I will give you the list. Number 1, Hyatt, is 326,221; Number 2, Ferguson, is 591,830; Number 3, Claflin, is 881,548; Number 4, Lockwood, is 1,195,044; Number 5, Aghnides, is 1,912,113; Number 6, the Felten British patent, is 6,012; Number 7, Purser British patent, is 136,663; Number 8, Battersby British patent, is 323,242; Number 9, Aghnides British patent, is 375,066; and Number 10, Solomon British patent, is 405,316.

(Book of patents received in evidence as Defendant's Exhibit 44.)

Q. (By Mr. Freeman): Now will you briefly tell us what the Hyatt patent has relation to?

A. The title of the Hyatt patent of 1885 is "Art of Purifying Water." Reading from the first column, beginning with line 8, it says:

> "The invention relates to the art of purifying water; and it consists, essentially, in a novel apparatus whereby air may be intimately combined with the water for the purpose of oxidizing its impurities according to well-known principles and the water then directly (Tr. 625):
>
> passed into the service pipes of a city or house, or first into a filter, whereby all flocculent matter is arrested, and then into said service pipes."

I would then like to call attention, later on in the first column on the first page of the patent, beginning with line 33 and running through line 52, if I may read:

> "Whether or not the water and air will be brought into such intimate relation as to insure the chemical purification of the water thereby will depend upon the nature of the apparatus employed for effecting this purpose; and it is to be remarked that in the purification of water for large cities or for manufacturing districts it is essential that the apparatus be simple in construction and be capable of utilization without great expense as to the original construction as well as to its maintenance. The object of the present invention is, therefore, to produce an apparatus whereby, in a continuous process, water may be rendered chemically pure by its union with air and the inert material remaining in the water be removed, the apparatus being simple in construction and uniform and effective in its operation and maintainable at a minimum expense."

Q. Now, first, that device is for purifying water in a plant, or a municipal water plant or city water plant, or an independently-owned plant, as distinguished from a (Tr. 626):
device that is to be attached to the type of water system in your home; correct?

A. That's correct.

Q. Now I am going to ask you to turn to figure 5 of the patent. Do you there find a plurality of screens through which the water must pass?

A. Yes. Figure 5 is on the third sheet of the drawings and is one of the modified forms of the invention. It is found, when the sheet is turned so that the figures read horizontally, that is, Figure 4 and Figure 5, it is in the upper right-hand corner of the third sheet of drawings, and it discloses a generally vertical tubular casing, to the upper end of which is connected a pipe D, and there is an arrow from that pipe D pointing downward, which indicates the direction of flow of water from that pipe D.

Q. That pipe D is of smaller diameter than the casing into which it is connected?

A. That's correct.

Q. So that there is a pressure drop as the water passes out of the conduit D into the chamber there below; correct?

A. That's correct.

Q. Now, extending across the chamber below the conduit D, I find five elements, referred to by the reference letter "L". Can you tell me what they are?
(Tr. 627):

A. Those are screens; and I might call your attention to the specification, that the specification states that those are screens L at a number of places in the specification; particularly on page 2, column 1, I see it very quickly, in line 44, "screens L."

Q. And, in addition to the specification, you can understand from the drawing that the symbols for the portions L represent screens?

A. That's right, the visual image is very ready.

Q. I note above the screens and below the conduit D, where it enters the large chamber, an attachment extending to the left, referred to by the reference letter W. What is that for?

A. That is an air-inlet pipe which connects to the side of the casing between the top of the casing through which the water enters and the uppermost of the five screens disposed within the casing.

Q. What brings about or causes the air to be brought in, if you know?

A. When the water discharges from pipe D into the larger casing, a pressure drop exists, which sucks in air through the valve which, I believe, is referred to as X. May I check the specification in that regard?

The Court: Check it and tell us what it is.

(Tr. 628):

The Witness: (Reading) "One side of this receptacle A is provided with a small pipe, W, the outer end thereof being closed, and provided on its under side with a valve, X, opening upwardly within the pipe."

Following right after that, it says: "As the water flows down through the receptacle, taking the air with it, a partial vacuum is created in the pipe W, and the valve X formed therein allows the air to pass up through it to be commingled with the flowing water."

Incidentally, I might point out that there are arrows shown in Figure 5, one adjacent to valve X and two adjacent the pipe, W, into the cylindrical housing, which indicates the path of the air as it passes through the conduit or into the cylindrical housing.

Q. (By Mr. Freeman): When you have that pressure drop from the pipe D into the chamber there below, that creates a partial vacuum?

A. Yes, sir.

Q. And does that bring about a sucking in of air from outdoors?

A. Yes, sir.

Q. And the valve X, then, is opened at the time that you have the pressure drop in order to permit air to flow in?

A. When the water is flowing, the suction of air lifts (Tr. 629):
the valve X sufficiently so air enters into the chamber, for mixing with water.

Q. And when the water is no longer flowing, or is turned off, the valve finds itself in what position?

A. It falls down to the lower position, under the force of gravity.

Q. Would there be any difference in operation if the valve were entirely omitted, so far as sucking air in is concerned?

A. Absolutely none.

Q. Now I note, in addition to the five screens in Figure 5, that there are some parts extending in from the wall of the chamber, marked by the reference letter L. What are they?

A. You mean M?

Q. M—I'm sorry.

A. The "M" are referred to as deflecting-plates. I note that in the specification, page 2, column 1, line 32. Now those could also be properly termed baffles, I believe.

Q. I was going to ask, if water strikes the members M that extend in from the walls of the receptacle A, would that cause deflection or breaking up of the water?

A. Yes, it would; and he purpose also of the deflecting-plates M is to cause agitation to further mix the water and air, if desired.

(Tr. 630):

I might point out that there is a fairly good description of all of the devices utilized in this single patent as agitating means for bringing about the mixing of the water and the air, and it is further pointed out in the specification that, while some of the modifications show the use of more than a single one of the agitating means, nevertheless, each of the agitating means may be utilized by themselves, if desired, including the screens L by themselves. With respect to that—

Q. Will you just point out, without necessarily reading it, that portion of the specification that justified your last statement?

A. Particularly page 2, column 1, lines 36 to 49—and I think two sentences there should be read.

The Court: You needn't read 36 to 49, because I have just read it, for my benefit.

Mr. Freeman: All right.

Q. (By Mr. Freeman): I referred to the large member as a chamber, the member A, and I am going to ask you to tell us what you find in the specification for the reference letter A. You can find that on line 76, column 2, page 1.

A. (Reading): "In the accompanying drawings, A designates the pipe or receptacle in which the water and air are combined."

(Tr. 631):

Q. So that is a receptacle?

A. That is.

Q. Can I use the word "chamber"?

A. It is a chamber-defining means; that is, the chamber is within the receptacle.

Q. And do you find that the chamber within the receptacle is for the purpose of mixing air and water?

A. Yes, sir, it is within the chamber that the mixing takes place.

Q. I am going to hand you a chart, particularly of Figure 5, which we will mark as Defendant's Exhibit 44-1-A. I am just going to ask you quickly to tell me the various elements that you have colored in the chart, Exhibit 44-1-A. Just do it briefly.

(The chart referred to was received in evidence as Defendant's Exhibit 44-1-A.)

A. That chart shows the casing or chamber-defining means colored in yellow, the apertured plate, or apertured diaphragm, through which water is introduced into the chamber, colored blue—that, incidentally, surrounds the lower end of pipe D—

Q. and constitutes the top portion of the chamber A; correct?

A. That's correct—and the mixing means, particularly the screens L, colored red, the five screens colored red. (Tr. 632):

Q. Now will you next turn to Ferguson—

The Court: Wait one minute.

At the terminal there of D, where it enters into the so-called mixing chamber, that portion you have marked in green there—

The Witness: Blue, sir.

The Court: Where is there something in the specification that describes the characteristics of that element?

The Witness: The element is shown simply as structure.

The Court: You have marked it blue for some reason. What was your terminology for it; how did you define it?

The Witness: It is the structure which defines the upper end of the mixing chamber A and also surrounds the inlet end for water, which is at the terminal end of pipe D.

The Court: What did you call it?

The Witness: The apertured diaphragm.

The Court: Where is there anything in the specification that says it is an apertured diaphragm?

The Witness: There is nothing in that specification which says it is an apertured diaphragm, Your Honor.

The Court: How do you know that it is apertured; is there anything in the patent that says it is?

The Witness: Because it opens through that plate at the top.

(Tr. 633):

The Court: Well, it can open through it entirely, as distinguished from through an aperture?

The Witness: I see what you are driving at—

The Court: I am just trying to find out whether anything in the patent describes what that is, whether an entire opening or an apertured opening.

The Witness: The specification says particularly that the pipe opening is of smaller diameter than the casing A. Therefore, there must be material that extends between the pipe wall and the vertical walls of the casing A. Does that answer your question?

The Court: Well, in one way, it does. I was just eager to find out if there is anything in this patent in connection with the specification that defines that particular portion of the A down there, whether it is an apertured opening or whether it is just a complete opening, like a smokestack.

Mr. Freeman: There isn't any question it's a complete opening.

The Court: Let the witness answer it.

The Witness: It is a complete opening; the whole pipe opens right into the casing.

The Court: Maybe I have a different conception of the words "apertured diaphragm." I was construing that as

(Tr. 634):

one having various openings in that member.

The Witness: No, sir; it has a single opening, a single aperture in the diaphragm.

The Court: That is what I wanted to find out.

Q. (By Mr. Freeman): Would you turn to claim 1 of the first patent in suit and tell me what is there defined as the apertured diaphragm, how many openings are there provided?

A. It says, reading from claim 1 of the first patent in suit: "... a diaphragm at the upstream end of the chamber having at least one orifice through which the stream of water is adapted to be forced into the chamber with substantial velocity."

Q. Now I am going to ask you if you find in the Hyatt patent, Figure 5, at the upper end of the chamber, a single orifice.

A. Yes, sir.

Q. And does water, then, pass through that orifice into an enlarged chamber there below?

A. Yes, sir.

Q. And does that water, as it passes from the pipe D through the upper end member of the chamber, bring about a pressure drop at that particular point?

A. Yes, sir.

(Tr. 635):

Q. And is that pressure drop brought about by the enlargement of the chamber below the stream of water?

A. Yes, sir.

Q. Is that likewise true in the Aghnides patent?

A. Yes, sir.

Q. And is it likewise true that air is sucked in because of the pressure drop at that particular point?

A. Yes, sir.

Q. Now I am going to ask you to turn to the second patent in Defendant's Exhibit 44, which is the Ferguson patent, and which we will refer to as Defendant's Exhibit 44-2, and tell us briefly what is there disclosed.

A. The title of the patent is "Apparatus for Mixing Liquids and Gases." I call attention to column 1, lines 9 to 14, which read as follows:

"This invention relates to an apparatus so constructed that it will charge liquids with gases in such a manner that the latter will be finely subdivided and will be suspended in the liquid in the form of small bubbles, that will be slow to escape."

But, more particularly, this apparatus was for use with baths and, as shown in Figure 1, the apparatus is for use in a bathtub, for charging the bathtub with carbonic-acid gas in solution with the water for, you might say, ap- (Tr. 636):

proximating what they call Nauheim baths, which apparently were quite popular in that period, 1897. Do you want me to continue?

Q. I was going to ask you perhaps to refer to Figure 2 of the patent, and can you briefly tell us its makeup, as you understand it, from the patentee's explanation thereof?

A. Figure 2 shows the operative mechanism for combining the water or liquid and the gas. There is a casing d, having therein an inner tubular member e, and between the inner member and the outer member there is formed an annular passageway through which the liquid moves. The member e is hollow or tubular and the gas is drawn in through there.

Q. With respect to the tube e, what is the container that the liquid flows through?

A. The liquid then passes down between the portion marked d' and the lower portion of the central tube e and

discharges in the form of a conical jet, that is, conical downwardly, the apex being downward, and that movement of the water operates to draw in—or, I should say this: It creates suction, because of the pressure drop, and that suction will draw gas through the tubular member e and the water and the gas, or liquid and gas, will then enter into a mixing chamber, which is a little difficult to see, but I will try and define it. Just below the end of the

(Tr. 637):

tube e there's a thimble-shaped member marked h, and that has many perforations therethrough, as clearly shown in the drawing, and, if you consider a cup-shaped member, the inside of that cup-shaped member is a chamber and within that chamber the water and the gax mixes and is further mixed by impingement on the perforated thimble member h, and the water and the gas then issues through the perforated thimble member h as an aerated spray.

Now the patent points out that when an aerated spray is discharged it is more desirable to discharge the fluid into the bathtub in a quiet stream. So they provide a casing, called h', which collects the discharge of aerated, or gasified spray—because air is not mentioned—gasified spray, and the gasified spray is caused to pass through a perforated member, i, and then through a contracted nipple, i^2.

I might read from the specification, which says, beginning in column 2, line 69:

"By the particular construction of the injector the gas is divided into small bubbles, which will be slow to rise through the saturated body of liquid within tub A, so that an effervescent bath is obtained which permits a prolonged use without loss of the original properties of the

(Tr. 638):

admixture. The injector furthermore so breaks the force of the current that the charged liquid will escape into the

tub through the nipple in a quiet stream, and not in the form of a violent current."

And that statement means to me that the mixture of water, with bubbles disseminated throughout, or bubbles disseminated therein, is a non-splash stream.

Q. And is that brought about by the portion that is referred to as the nipple, i^2, at the lower end of the nozzle, i?

A. Both the nipple, i^2, and the perforated member, i, contribute to that effect.

Q. You find that described, do you not, starting with line 62, column 2, page 1?

A. Yes.

Q. Would you read that into the record, please?

A. Well, as I stated before, spray is formed above the perforated member, i, and now the specification says this:

"This spray is collected in a chamber formed by a surrounding tube h', and thence flows downward through a number of parallel upright ducts or channels i' of a perforated nozzle i, to be finally discharged into a bath-tub A or other receptacle through nipple i^2."

Q. Have you called attention to the same column wherein the patentee talks about the device being used for other (Tr. 639):

purposes, starting with line 84?

(Tr. 639):

A. I have not yet.

Q. Will you do that?

A. I should like to read this short sentence:

"It is clear that the invention may be applied to different purposes from the one specified, it being adapted generally for the admixture of volatile, semivolatile, or gaseous substances or of solid or semisolid substances (under pressure) with liquids."

Q. Now is it true that in the Aghnides device one of the liquids, to-wit, water, comes in under pressure?

A. Yes, sir.

Q. I am next going to ask you to turn to the Claflin patent, which is number 3 of Defendant's Exhibit 44, and tell us briefly what is there disclosed; and, at the same time, I am going to hand you a chart of one of the figures of that patent, which we will mark Defendant's Exhibit 44-3-A, and, perhaps, in order to save time, you might talk about the patent and the chart together, so that we do move along.

(The chart referred to was received in evidence as Defendant's Exhibit 44-3-A.)

A. The Claflin patent of 1908 is entitled "Air Exhausting Liquid Supply Apparatus." Now the principle form, and the one which I wish to call attention to, is (Tr. 640):

Figure 1, which is the big figure on page 1, in the lower right-hand corner. I should also like to call the Court's attention to the second sheet of drawings, which is Figure 6—

The Court: The chart you handed me is Figure 2, isn't it?

The Witness: Figure 1, Your Honor. Figures 2 is on the left.

The Court: I see it; Figure 1.

The Witness: I should also like to call the Court's attention to Figure 6, particularly the right-hand side of the drawing—that is the second sheet of drawings—which shows the device of Figure 1 in very small form, but identified as numbers 12 and 15, as mounted at the end of a faucet; actually it is a faucet, positioned above the sink or basin, which might be a wash-basin, I imagine.

Now the device of this patent is a device for exhausting air from the heating system of a building, so as to bring the heat up more quickly, and I might call the Court's attention, in this colored chart, Defendant's Exhibit 44-3-A, to the portion thereof colored yellow, which is the casing, and the portion thereof colored blue and identified by numeral 16, that is, the inlet nozzle through which water is directed as a jet. Now there is a pipe 15, which you see extending below the device, generally off to the right, (Tr. 641):

and that goes up there and intersects a portion of the space, and defines actually a space between the nozzle colored blue, which is 16, and the nozzle colored red, which is 18, and that is a pipe through which air is drawn. The jet of water leaving blue nozzle 16 entrains and sucks in the air fro mpipe 15 and goes into nozzle 18, which is called the combining nozzle, and after it leaves the combining nozzle 18 the mixture of water and air passes downwardly through the outlet end, which is on the left-hand side of Defendant's Exhibit 44-3-A, and you will see that the discharge end of the faucet, which is unnumbered, has two screens—what appears to be two screens, I should say, because there is no reference in the specification thereto—appears to have two screens mounted across the discharge end, plus a converging outlet.

Now, referring to the specification, I would like to call attention, first of all, to the object of the invention, which is in page 1, column 1, beginning with line 8:

"This invention has for its object to enable a liquid suplying faucet to perform the additional function of exhausting air from a vacuum chamber or element of an apparatus for utilizing a vacuum or partial vacuum."

I might also state that the first portion of the next sentence is important, because it defines where it is embodied, and may I read that:

(Tr. 642):

"The invention is embodied in a cock or faucet having a liquid inlet and outlet, an intermediate air inlet, means for causing the flow of liquid through the casing to induce an inflow of air through the air inlet . . ."

And then other means are recited which I won't call the Court's attention to, but I believe that that statement pretty well defines the basic combination of elements.

May I then skip down to line 25 in column 1, which says:

"When the faucet is performing its ordinary function of supplying liquid therethrough, the air and liquid passing together from the outlet of the casing."

Next may I call the Court's attention to column 2, beginning with line 103, which describes the operation, which may I read:

"The relative arrangement of the nozzles 16 and 18 and air chamber 19 is such that a jet of water formed by the nozzle 16, is projected across the air chamber into the combining nozzle, and induces a flow of air through the inlet 15 into the air chamber 19, the air mingling with the jet of water in the combining nozzle, and passing out with the water through the outlet 14."

Q. Now I was going to ask you if it is not a fact that in the U. S. application as originally filed—

(Tr. 643):

The Court: The application of what?

Mr. Freeman: The application of the Aghnides patent, Plaintiff's Exhibit 15.

Q. (Continuing)—there is not a figure that corresponds rather closely to the structure that you have just defined, that is, the member 15 and the mixing chamber 18. Will you point out the particular figure to the Court?

A. Yes, sir. In the drawing as originally filed Figure 2 shows an inlet nozzles, or tube—it is not in nozzle form; it is in cylindrical form—and it is shown so arranged with a combining nozzle that the water is projected through a converging-diverging type nozzle, indicated by numeral 21, and the upper end of the pipe 20 is spaced from the lower end of the upper pipe so as to define an air inlet through which air is introduced.

Now I might point out that the combining nozzle 18 in the Claflin patent is also of the converging-diverging type. May I also point out that it is intended, in the file wrapper, which is Plaintiff's Exhibit 15, that the lower end of pipe 20 be provided with two screens 9, as shown in Figure 1, and with a converging outlet, as indicated by number 42 in Figure 1; and, so that I might give you a basis for such an arrangement, may I call the Court's attention to Figure 2 of the British patent 468,687, which is Defendant's (Tr. 644):

Exhibit—

Q. The British patent of Aghnides?

A. The British patent of Aghnides.

Q. Just refer to it as the British Aghnides patent.

A. British Aghnides patent 468,687, which shows the same type of arrangement substantially as in Figure 2 of the American application, Plaintiff's Exhibit 15, and shows two screens 9 at the bottom thereof, although the constricted outlet is not shown in the British patent. However, the arrangement of these dot-dash lines at the bottom of Figure 2 is intended to indicate that the terminal end of the casing is similar to the terminal end in Figure 1 of Plaintiff's Exhibit 15.

Q. I was going to ask you if it is not a fact that what you have just described in connection with the British patent, Figure 2, is not likewise found in the Belgian patent, Figure 2.

A. Yes, it is, in the Figure 2 of the Belgian patent, which is Plaintiff's Exhibit 13; and that arrangement corresponds with the arrangement shown in the Claflin patent and Defendant's Exhibit 44-3-A.

Q. Now, Mr. Lettvin, still referring to the Claflin patent, Figure 2, and the chart, you there find at the lower end of the faucet a contracted or restricted discharge end; correct?

(Tr. 645):

A. Yes, sir.

Q. And somewhat above that end and below the portion 18, you find, cross-secting the outlet, a number of either perforated plates or screens?

A. Yes, sir.

Q. In other words, you find dot-and-dash lines indicating that there are some openings through which water may be forced?

A. Yes, sir; and I think it shows up better in the patent drawings than in the photostats, because the photostats lose some of the detail, if I may point that out to the Court.

Q. Let me ask you what would happen if the water were "wild" or turbulent as it leaves the mixing portion 18, what would happen as it passes through the screen and through the constricted outlet, as it reaches atmosphere?

A. Well, the mixture of water and air that would be discharging from the faucet would be considerably slowed down by the screens, depending upon the mesh, and the constricted outlet would cooperate also to define a coherent, aerated stream discharging from the end of that faucet.

Q. And, in that respect, the constricted end of the Claflin patent, just below the screen, would serve very much as the nozzle i^2 in the Ferguson patent, which you referred to a moment ago?

(Tr. 646):

A. Yes, sir.

Q. Now I am going to ask you to turn to the Lockwood patent of Defendant's Exhibit 44, which will be designated as Defendant's Exhibit 44-4, and I hand you a chart, which we will mark as Defendant's Exhibit 44-4-A, and will ask you to explain simultaneously, if you will, both the patent and the chart.

(The chart referred to was received in evidence as Defendant's Exhibit 44-4-A.)

A. The Lockwood patent of 1916 is entitled "Apparatus for the Gaseous Treatment of Saccharine Juices." Initially, I would like to call attention to column 1 of the first page of the specification, line 31, which says:

"My invention, therefore, does not aim at the broad idea of treating saccharine juices with any particular gas or gases, but is directed to an improved apparatus for making that treatment more positive and effective."

Then I'd like to read the important object, which begins with line 53 on page 1, column 1, and reads as follows:

"The primary object of my invention, therefore, is to improve the conditions or methods heretofore employed, by causing the gases to come into more direct or intimate molecular contact with the particles of the mass of juice,

(Tr. 647):

rather than by surface contact and indirect partial absorption."

Now the particular figure of importance is the apparatus shown in detail in Figure 2 on the second sheet of the drawings; that is, Figure 2 shows the details of the apparatus for mixing the saccharine juices, which are liquid,

and the treating gases, which are gaseous.

Q. And is that the figure which you have on the chart?

A. Yes, sir, that is the figure on Defendant's Exhibit 44-4-A, which is colored.

Now the saccharine juices are introduced through the top of the casing by way of the tube 15, which enters into the portion marked 16, which is colored blue on Defendant's Exhibit 44-4-A. I might call attention to Figure 4, which gives a plan view of the lower end of element 16, which shows eight openings 13 through which the jets of liquid are discharged into the mixing device.

Q. Mr. Lettvin, will you give me the number of the cross-member through which the juices pass?

A. That is number 12, and it is in the form of a diaphragm or disc and it has eight of those holes 13 bored therethrough.

Q. Now those holes, you say, and the cross-member 12 are shown in plan view in Figure 4; correct?

(Tr. 648):

A. Yes; and Figure 4 is found on the first sheet of the drawings in the upper right-hand corner.

Q. Will you tell us the position of that perforated member formed by the plate 12 and the openings 13 with respect to the remainder of the device?

A. Let me put it this way: Disposed to the left and right of the casing, which, incidentally, is marked with numeral 1 in Defendant's Exhibit 44-4-A, is colored a casing. There is to the left a tubular arm 5 and to the right a tubular arm 4 through which gases are sucked in by the pressure drop that occurs as the liquid jets are discharged through the orifices 13. The jets are so arranged with an apparatus in the center of the casing 1, that is, the yellow casing 1, that the jets diverge outwardly and impinge upon the walls of the apparatus, which I will now describe—

Q. Just a minute. You stated that the apertures 13 project outwardly?

A. They appear to project outwardly, in the drawing they seem to be at an angle. And I might also say this: that in the description of the device, on page 3, column 1, beginning with line 29, it is stated:

"These jets may be directed to impinge against the inner conical wall of the first conical deflector, causing a splashing or diverting effect for more thoroughly mix-
(Tr. 649):
ing or commingling the particles of juice and treating gases, the gases sucked into the chamber 1 being also more positively drawn into and through the successive cones, in entrained relation with the juice, by the suction created by the juice itself passing therethrough."

Incidentally, I started to describe the structure within the casing, or within the chamber, which brought about the mixing, or the improved mixing, of the liquid and the gas, and that structure is shown in the form of three stacked cones which are of the converging type, with the lower terminal ends of the cones being generally cylindrical, and the uppermost of the cones is identified by numeral 17, and the second one below it is number 20, and the third one is number 23, and the cones are so arranged that the upper portion of one cone is spaced from the lower portion of the cone there above, so as to define substantially annular passageways between the cones through which the gas is sucked by the movement of the liquid through the device.

Q. Now when the liquid comes through the openings 13—and I think you said there were eight openings—would that liquid be in the form then of a plurality of jets?

A. Yes, sir.

Q. And would they be each open or suspended in such form that they might be referred to as a naked stream? (Tr. 650):

A. Absolutely, because they are completely, as they leave and until they hit the wall of the first cone, they are completely surrounded by the gases which are being sucked in by the aspirating action—and I use that word, even though it isn't in the specification, because that is what happens—the aspirating action of the liquid as it passes through the orifices 13 into the chamber.

Q. That is, the structure you see in Figue 2 is of the kind that may be referred to as an aspirator?

A. Yes, an aspirator or aerator; either name is all right.

The Court: Is there anything in the specification to indicate whether the bottom of those sections you referred to as three cones, whether the bottom of the cone has any screen or device whatever?

The Witness: No, sir, but I would like to point this out: that the lower portion of the casing, below the throat, again is constricted so as to confine the mixture of liquid and gas that issues from the mixing cones.

The Court: Is it not just a continuation of that cone form, the cone formed out of the tubular pipe, or whatever it is, the funnel below it?

The Witness: I don't believe so.

The Court: It seems to have a flange on each side of the bottom of the last cone. Doesn't the bottom of that (Tr. 651):
cone fit into the opening below it substantially?

The Witness: Yes, sir, it does.

The Court: In the same relation the previous cone did into the last one?

The Witness: Yes, it does, Your Honor.

The Court: Then it narrows down—there is no figure there, but it comes to a narrow channel at relatively the same distance as we have in each of the three preceding ones, is it, something like that?

The Witness: Yes, sir.

The Court: Now what do you say that produces; what is the effect of bringing it into a narrow channel down there, 29?

The Witness: The lower end of the casing would serve to confine the mixture of liquid and gas that issues from the mixing appagatus.

The Court: Into a narrow stream?

The Witness: Into a narrow stream.

The Court: Now what is the object of broadening that same outlet, as you go on down to 30; what is the object of broadening that outlet more as you go down—or does it say?

The Witness: I don't recall. You will find 30 in column 2 on page 2.

The Court: Line 71—beginning at 69: "This conical (Tr. 662):
throat 26 is also provided with a flanged apex 28 bolted to the flanged apex end of an inverted conical tube 29, terminating in one or more tubular sections 30 and 31, which latter are connected by an elbow 32 with the interior lower portion of a retarder or baffling tank 33."

By Mr. Freeman:

Q. In the patent, Figure 3 shows the conduit, the bottom of Figure 2, as pipe 30, and the retarder is that obstruction which has baffles leading in from the right and the left?

A. That is correct; and the purpose is to obtain intimate commingling between the gases and the liquid as they pass through the retarder shown in Figure 3 until

the processed saccharine juices are removed from the discharge outlet 40, which is at the upper end of the retarder.

Q. Now I am going to ask you to turn to—

Mr. Freeman: While we included the Aghnides patent in our book as 44-5, the Aghnides Patent 1,912,113, I am not going to burden the Court with any further explanation of it, but, of course, I do want to be able to refer to it in any written remarks, so I am going to pass that.

Q. I am going to ask you now, Mr. Lettvin, to turn to the Felten patent, which is the British patent, number 6 in the books, which will be designated as Defendant's Exhibit 44-6—

(Tr. 653):

The Court: Who is the patentee there?

Mr. Freeman: Felten. That is one we have had considerable comment about, and I am just going to ask him briefly to talk about it.

The Witness: Felton, No. 6,012, of 1909, is entitled "Improvement in or relating to Mixing Devices," and if I might read from the specification, page 1, beginning line 5:

> "This invention relates to a new mixing device chiefly intended for producing such mixtures from a gas or vapor-like substance and a liquid substance, in which either the one or the other substance or the mixture are unstable. A special important field of application for the new mixing device are ozone apparatus in which ozone-containng air is to be mixed as quickly and thoroughly as possible with a liquid to be ozinized for instance for the purpose of sterilising, since it is well known that ozone decomposes very quickly and loses its efficiency."

Q. Along with the Felten patent, I neglected to hand you a chart, which is a photostatic copy of the drawing,

which we will mark Defendant's Exhibit 44-6-A, and, in order to save time, you might refer to the chart as well as the patent in your further answer.

(The chart referred to was received in evidence as as Defendant's Exhibit 44-6-A.)

(Tr. 654):

A. Now, in Defendant's Exhibit 44-6-A we have maintained the same coloring of parts that was maintained in the earlier colored charts, in that the casing which defines the chamber in which the mixing of the gas and liquid takes place is colored yellow, and the structure which defines the liquid jet-forming meaning is colored blue, and the resistance means, or baskets, within the mixing chamber are colored red, and there are four baskets f, as we have here positioned within the mixing chamber.

Now I might point out that the mixing chamber e extends all the way up to the lower surface of the jet-forming means, which is colored blue, and the chamber into which the jet of liquid is discharged is of greater size than the size of the jet-forming orifice, which is designated by the letter c. The air is drawn in through conduit d, into the mixing chamber adjacent the top of the mixing chamber e, and the mixture of liquid and gas—and incidentally, the specification states that the gas is ozone-containing gas, that is, air with ozone in it—mixes within the mixing chamber by passing through the baskets f and discharges therefrom in a coherent, aerated stream. Incidentally, the lower end of the casing is equipped with a constricted outlet, g.

The Court: Where does it say that it comes out as an

(Tr. 655):

aerated stream?

The Witness: It does not say so, but I think the demonstration illustrated that it came out—

The Court: I was just wondering if it said anything in there.

The Witness: No, sir, there is nothing in the specification.

The Court: For the information of the Court, I notice here in your colored chart you have f shown in different shape or form. Is that in accordance with the way the drawing is in the Felten patent?

The Witness: Yes, sir. This chart, Defendant's Exhibit 44-6-A, is a photostatic copy.

Mr. Freeman: None of these are drawings that were made at all; that is a photostatic copy of the patent drawing itself.

Q. (By Mr. Freeman): Now, Mr. Lettvin, if I were to take the Felten patent, and water came out of it in turbulent or in an incoherent stream, what patent would I have to turn to, in the prior art, to restrict or contain the water so that it would come out in a coherent stream?

A. The references that we have thus far talked about—

Q. No, I am asking you if you have any anti-splash device patents.

(Tr. 656):

A. Yes, sir.

Q. Which one is it in the book of patents?

A. Number 7, the Purser. Patent number 7 is a very simple device. It is number 136,663, it is from Great Britain, and the title is "Improvements in or relating to Splash Preventers for Domestic and other Taps." That would be faucets and the like.

Turning to the single sheet of drawings of the device, the splash preventer is shown as including a body, a, through which the liquid passes, and having therein one or more screens identified by c, and a converging and, therefore, constricting outlet b below the screens. And I might

point out that in the specification, on page 3, beginning with line 13, it says, beginning in the middle of a sentence: "... a disc or discs—"

The Court: You are beginning in the middle of a sentence?

The Witness: Let's begin at line 11:

> "Between the lower extremity of the tubulus a and the lower side of the annular channel b^3 within the upper part of the nozzle b, a disc or discs of wire gauze may be incorporated to function as a strainer. The depending part of the metallic nozzle b may be of taper form as in the previous embodiment."

(Tr. 657)

Q. (By Mr. Freeman): That portion that you read refers to the device wherein the wire gauze functions as a strainer. Is there any difference, in so far as the term "strainer" or "anti-splash device" or "anti-spout device"?

A. No, sir; and I was just going to say, before you asked your question, that, if you will recall, in the Aghnides patent, number 5 of the book of patents—

Q. Is that the British patent?

A. Both the American and the British patents, the American patent being 1,912,113, and the British patent being 375,066, which is number 9 of the book of patents, that is, Defendant's Exhibit 44-9, both devices refer to the use of screens or wire gauzes as an anti-splash device. Now, incidentally, in the American patent, which is 44-5—

Q. On page 1, line 95, you find what?

A. It states: "Preferably the outlet 11 will be provided with a wire gauze acting as an anti-spout device.

Q. Now what do you find in the corresponding British patent with respect to the term "anti-spout device"?

A. Well, in the British patent, which is Aghnides 375,-

066, which is Defendant's Exhibit 44-9, on page 1, beginning with line 104, the specification states: "Preferably the outlet 11 will be provided with one or two wire gauzes acting as anti-splash device."

(Tr. 658):

To me, the words "anti-spout" in the American patent, and "anti-splash" in the British patent mean the same thing, because the gauzes are positioned at the same place on the same device.

Mr. Freeman: In connection with the Felten patent, Your Honor, we did not plead in this case the Fuss patent, about which there was some fuss made yesterday and again this morning—

The Court: Can't we agree not to fuss about it any more?

Mr. Ely: I might want to fuss about it.

Mr. Freeman: I was going to ask Mr. Lettvin to refer to that briefly, not for the purpose of anticipation, but for the purpose of showing the state of the art. The plaintiffs in this case are not surprised about it, because they had copies of it and it was used in the Chicago suit and the Court of Appeals there referred to the Felten patent and they referred to its counterpart in the United States Fuss patent, so I am not injecting anything in the case now as a surprise.

Mr. Ely: I have no objection to your talking about the Fuss patent.

The Court: What is the number of it?

The Witness: It is not in here, Your Honor.

(Tr. 659):

Mr. Ely: You pleaded it in your answer.

Mr. Freeman: That's better than I thought. I still repeat my statement that it is not for the purpose of anticipation, but for showing the state of the prior art.

May we have a short recess at this time?

The Court: Yes, sir.

(Brief recess taken.)

Mr. Freeman: I am going to ask the Clerk to mark the Fuss patent as Defendant's Exhibit 44-11.

(The patent referred to was received in evidence as Defendant's Exhibit 44-11.)

Q. (By Mr. Freeman): Do you have a copy of that patent, Mr. Lettvin?

A. Yes, sir.

Q. I am going to ask you, just briefly, to tell us what you find in the Fuss patent. First, does it relate to what we would call a domestic drinking-water system?

A. Yes, sir.

Q. And where do you find in the patent any statement that justifies your last answer?

A. On page 1 of the specification, in the first column, the last two lines, beginning at line 54.

Q. Will you read it?

A. (Reading) "In the example of the system for treating a liquid with ozone, illustrated in the drawings the (Tr. 660):
appartus for mixing the ozone and liquid is provided with a tubular plug 1 whereby it can be connected to a suitable water supply, for example, to a faucet of the water system of a building."

Q. Now do you find in the drawings any illustration of a building with a plurality of water faucets, showing, or exemplifying, at least, diagramatically, a water system in a building?

A. Yes, sir.

Q. Which figures is that?

A. On page 1 of the drawings, Figure 8, which is the right-hand drawing, there appears to be a building having

three sinks and three faucets positioned above each of the sinks on each of three floors, and the faucet is numbered 34.

Q. Now is it fair to say that the patent to Fuss has for its object the obtaining of better or purified drinking water?

A. Yes, sir. That is best pointed out in the specification, page 1, column 1, beginning line 9, if I may read it:

"This invention relates to improvements in systems for treating liquids with ozone for the purpose of oxidation and destruction of germs, and the object of the system is to provide a system by means of which such (Tr. 661):

oxidation and destruction of germs takes place in a particularly effective way."

Q. Now, I notice in the general object that you just read, in line 10, the term "treating liquids." Can that be water?

A. Yes.

Q. And where do you find that justification?

A. Well, that goes back to the sentence that I read previously; and, if I may just quote from the middle of the sentence, or, if you want me to read the full sentence—

Q. No.

A. It says ". . . can be connected to a suitable water supply, for example, to a faucet of the water system of a building."

Q. Now will you tell us briefly about the Fuss patent—and I am going to call the Court's attention to the fact that Figures 2, 3, 4, and 5 of that patent are, I would say, substantially duplicates of Figures 1, 2, 3, and 4 of the British Felten patent.

The Court: I had noticed the similarity.

A. There are two forms of device shown in the Fuss patent, the one in Figure 1, and the one that you have

just referred to in Figures 2 to 5, inclusive. Now the one in Figures 2 to 5, inclusive, is the one that is shown (Tr. 662):

mounted in position at the end of a tube, 11, in Figure 6, and the tube 11 is for the purpose of supplying the ozone to the water that is passing through the device.

Q. Now what is that device fastened to, that is referred to, I think, by the reference numeral 24 in Figure 6?

A. 24 is a faucet of a building.

Q. You recognize that—

The Court: I don't see any figure 24.

The Witness: That is 28.

Mr. Freeman: I just misread it; I can't see it.

Q. (By Mr. Freeman): You find a faucet, do you not, in Figure 6?

A. Yes, sir.

The Court: Where is it?

The Witness: Right at the right.

The Court: I see that. What do you call those numerals there?

Q. (By Mr. Freeman): What is the designation of the faucet? My copy, which is photostatic, is rather hard to decipher. Will you turn to the specification?

The Court: It appears to be 24.

The Witness: It appears to be 24, on the drawing, but the specification says it is 28, the faucet.

Q. (By Mr. Freeman): Where do you find that refer-

(Tr. 663):

ence to a faucet as being 28?

A. For example, page 2 of the specification, column 2, lines 75 to 78: "The duct 15, 16, 17 and 18 communicates with the ejector 3, 11, which, in the example illustrated, is located at the discharge side of the faucet 28."

Q. Now I note in figure 2 of the patent that the lower end has the reference numeral II thereon.

A. Yes, sir.

Q. Do you find the same reference numeral on the lower end of Figure 6?

A. Yes, I do.

Q. Now just tell us what the patentee states is his objective in getting ozone into the water system.

A. Well, I believe that was stated earlier, in page 1, column 1, for the purpose of oxidation and destruction of the germs.

Q. Now is it true that when water passes through the faucet 28, using Figure 6 as illustrative, that an ozonator is brought into operation?

A. Yes, sir.

Q. How is that ozonator brought into operation? Just tell us that briefly.

A. I will tell you briefly, from what I have read in the specification, in my own words. At the lower end of the (Tr. 664):
faucet 28 is the device shown in Figures 2 to 5, inclusive. Now when the water is turned on there is created in the tube 11 a partial vacuum, or a suction, and that suction operates to close a valve—I'm sorry, not close, but to open a valve, or move a valve—let me put it that way—move a valve which is located in the apparatus, designated by the casing for the apparatus.

Q. Is that apparatus an ozonator?

A. Well, there is a valve in that apparatus and there is also an ozonator in the apparatus, and when the suction moves the valve it operates to turn the ozonator on, and the moment the ozonator is turned on ozone is supplied through the means of the ducts, and I believe I gave those numbers before as 15, 16, 17, and 18. The ozone passes

through the ductwork and through the tube 11 to the mixing device, which is shown at the lower portion of the faucet.

Q. I think that reference you referred to as tube 11 is actually tube 18.

A. Tube 18; you are right.

The Court: Are you still referring to Figure 6?

The Witness: Yes, sir, Figure 6.

The Court: I don't see any 18 on mine—yes, I do.

The Witness: It's the pipe. It's extending downward (Tr. 665):

in the upper part of Figure 6.

The Court: Where in the portion, whatever the product is, where it is discharged; where do you get it out?

The Witness: It goes out of the lower end, or through the nozzle 11 at the lower right-hand side of Figure 6.

The Court: Where does the water come in at?

The Witness: The water comes from the faucet 28, of which you can see the handle.

The Court: I see the handle, but where does it come from?

The Witness: It comes from the water system of the house.

The Court: And, in this figure, what is it that brings water into that contraption?

The Witness: That is not shown.

Mr. Freeman: In other words, Your Honor, in making patent drawings, you show the source of supply, and all they show here is the pipe and faucet; they haven't gone back to any main or anything of that kind.

The Court: As I understand it, the drawing beneath goes to the part of Figure 6 at the top; does it not; that tube connects with that tank on the upper part of Figure 6?

The Witness: Yes, sir.

The Court: It doesn't show any opening in this faucet (Tr. 666):
for water, but it would come in there where the pipe seems to terminate in the handle?

The Witness: No, sir; in Figure 6 of the faucet is shown broken off at the left-hand end.

The Court: Do you see that (indicating)?

The Witness: Yes, sir, I see that. That means the faucet is connected somewhere to a source of supply of water.

The Court: That is what I just asked you—the only place I can see where water comes in.

The Witness: That is where the water comes in, and there's a valve that controls the movement of the water into the faucet.

The Court: And it goes down into that channel?

The Witness: Down into the mixer member 3, and discharges at the outlet end 11.

Q. (By Mr. Freeman): In other words, when the faucet, or the petcock is in open position, water will pass in the direction from left to right and downward, as in an ordinary faucet; correct?

A. Yes, sir.

Q. And at the lower end of the faucet is screw-threadedly connected there with a device corresponding to Figure 2 of the Fuss patent?

A. Yes, sir.

The Court: There's no use to repeat and go back over (Tr. 667):
what he's already been over. I was just trying to get straightened out about the water inlet and the final outlet.

Q. (By Mr. Freeman): I would just like to get clear that the pipe 18 in Figure 6 connects up to the right-hand side of Figure 2; is that correct?

A. Oh, yes, to the duct shown extending laterally from the right-hand side of Figure 2—you are correct—and ozone is supplied finally by the ozonator through the duct 18 to the mixer 3 mounted at the lower end of the faucet.

Q. Now, in connection with Figure 8 of the Fuss patent, do you there find a single ozonator, or apparatus for making ozone?

A. Yes, sir.

Q. Do you find that then connected to a plurality of drinking taps or faucets?

A. Yes, sir.

Q. And do you find that when any one of the three faucets is open the ozonator will be brought into operation for permitting ozone to be drawn into it and mixed with the water?

A. That is what the specification describes.

Q. Now, in so far as the supply of ozone, is that a supply that continues to be replenished as the device operates?

A. Continuously; as ozone is being drawn off, more ozone is supplied to the faucets.

(Tr. 668):

Q. So that it only takes a partial vacuum to start the device operating and thereafter free ozone from the ozonator will flow into the drinking water?

A. That's correct.

Q. And how is that ozone drawn into the drinking water; what brings that about?

A. The suction induced by the mixing apparatus shown in Figure 2.

Q. You used the term "suction induced." Is that the same as a partial vacuum?

A. Yes.

Q. And isn't it a fact that the patentee refers to the duct too as a suction duct?

A. Yes, on page 1, line 80.

Q. And that he likewise refers to that same portion as a partial vacuum being created within the suction duct tube; correct?

A. Yes, sir.

Q. So that the structure of the Felten British patent, which is shown in the Fuss patent Figures 2 to 5, brings in ozone from a continuous source, or a replenished source, as distinguished from vacuumizing a tank?

A. That's correct.

Q. And when I say "brings in ozone," I am referring (Tr. 669):

specifically to the Fuss patent.

A. That's correct.

Q. I believe you have already talked about the Purser patent, which is an anti-spout or anti-splash device.

I am now going to ask you to turn to the Battersby patent, which is Exhibit 44-8, and I hand you a chart which we will mark as Defendant's Exhibit 44-8-A, and will ask you to explain the patent and the chart at the same time, in order to save time.

(The chart referred to was received in evidence as Defendant's Exhibit 44-8-A.)

A. The Battersby patent of 1929 is entitled "Improvements relating to Apparatus for Aerating and Blending Liquids." The early portion of the specification is particularly significant, and may I direct attention to the complete specification, beginning on page 2, at line 71; and may I read:

"This invention relates to apparatus for aerating and blending liquids, and in particular for aerating water and blending with it some kind of flavouring to make a hot or cold drink."

I would like to also read on that page, in the righthand column in the lower half, beginning with line 99:

"In the preferred apparatus, the primary liquid is forced through a jet consisting of a perforation at the apex of a
(Tr. 670):
cone-shaped nipple and arranged centrally in a pipe, the walls of which are perforated to admit air at some distance in front of the aperture; the flavoring liquid is thus blended and aerated and received in a receptacle, usually a drinking glass, through an outlet to the pipe which may be shaped to prevent undue splashing."

Q. Reference there is made to the primary liquid. What do you understand to be the primary liquid, as there stated?

A. Water.

Q. And do you find that because of the statement that you earlier read, that it was particularly for aerating water?

A. That's correct.

Q. Will you proceed to tell us just how the device functions?

A. Calling attention to the colored chart, Defendant's Exhibit 44-8-A, Figure 2 is the apparatus which performs the aerating function, and there the casing of the device, which surrounds the mixing chamber, has been colored yellow and the upper end of the mixing chamber is bounded by a nozzle 1 which has the nozzle aperture m therethrough. Now the walls—

Q. When you say a nozzle aperture, you mean an opening?

(Tr. 671):

A. An opening, that is correct. His specification used the term nozzle aperture. That is an opening in the nozzle 1.

Q. A single opening?

A. A single opening.

Q. Would it be fair to say that that particular structure comprises a member extending clear across the water passageway?

A. Yes, sir.

Q. Could I call it an apertured diaphragm?

A. Yes, containing a single aperture.

Q. Proceed.

A. Below that nozzle 1 there is an enclosed space in which there are four air openings j. They are referred to as air intakes in the specification. While only two of them are shown in Figure 2, the specification states that those holes are drilled in opposite walls and, therefore, there are two pairs and there are four air-inlet openings. Now those air-inlet openings are spaced below, to use the term that was used before, the apertured diaphragm. As the jet of water passes downwardly from the nozzle aperture m it sucks in air through the air intakes j.

Q. Is that water coming in at substantial velocity?

A. Yes, sir.

Q. Why?

(Tr. 672):

A. Because you have a small orifice and the upper portion of the device is connected by means of union g on your tap and you have a large body of water behind that aperture and, depending upon the pressure, you are getting fluid through that aperture at substantial velocity.

Q. You said "behind." You mean upstream of the apertured diaphram?

A. You are correct.

Q. Where are the openings or the air inlets with respect to the aperture or nozzle of the Battersby patent?

A. They are below the nozzle aperture.

Q. Downstream?

A. Downstream, yes, sir.

Q. Are they closely adjacent to the particular place where there is a pressure drop as the fluid passes from the conduit g through the nozzle into the portion 1?

A. Closely adjacent is rather vague. I notice that the upper air inlet j is, of course, closer to the nozzle aperture than the lower air intake j.

Q. What does the patentee state with respect to the construction we are now talking about; and I direct your attention to page 3, about line 35, "the pressure union g is screwed to the outlet;" will you describe the structure that you there find?

(Tr. 673):

A. That's correct; he describes there what I have thus far described. Now, in the functioning of that apparatus, may I read, beginning with line 45 on that page?

Q. Proceed.

A. (Reading) "With the appartus so far described, if the water is turned on, a downwardly directed jet or spray is formed from the nozzle m in which the water is finally subdivided and which moves at a high velocity so as to draw in air laterally, and if this jet is received in a receptacle, the water would be highly aerated and would remain aerated for an appreciable time."

Q. Now will you proceed with the further description wherein blending of the aerated water with a syrup or other liquid is brought about?

A. Downstream of the portion of the pipe h which contains the air intake j there is a conical reduction, which is

referred to as n—and I am referring to Figure 2—and just off laterally from that conical reduction there is a tube s which leads to a container p, which is adapted to receive fruit juices, and, incidentally, a control valve s is disposed in the tube—I think I referred to the tube as "s" before, and that is incorrect; the tube that leads from the syrup container is tube o and the control valve is s—there's a valve s which may be used to either shut off the (Tr. 674):

flow of syrup to the device or opened up to permit syrup to flow into the aerating device.

Now below the junction of that conduit o with the portion of the pipe n there is a peg or stem referred to as u, and that peg or stem extends into the inside of the pipe h and is adapted to have the downwardly directed liquid impinge there against to effectuate better mixing of the water and the ingested material. When I say "ingested," that is the material that is brought in by the operation of the device.

Now below the peg or stem there is generally indicated by the letter t an anti-splash device; and if I may read from the specification, on page 3, lines 82 to 85, the specification states:

"Between this"—and when they refer to "this," I believe they mean the anti-splash device t which had previously been referred to—"Between this and the junction with the pipe o, a flow adjuster is provided which may be of any desired kind, but is shown, as an example, as an adjustable screw u the stem of which is about one half the diameter of the inside of the bottom part of pipe h. This adjuster, when desired, may be moved towards or across the centre of the pipe h so that the liquid stream will impinge upon the stem, thus causing the blended liquids to be discharged through the outlet of the pipe h in a foam-

(Tr. 675):
ing state. The result is a blended drink highly aerated which is received in the glass v."

Q. Now, Mr. Lettvin, you have so far described the device, in the parts that you have described, as applicable for aerating a mixed drink of some kind, syrup and water; correct?

A. Yes, sir.

Q. Did you find anything in the patent that tells how that device might be used for ordinary domestic drinking water in a home?

A. Yes. On the same page, page 3, column 2, beginning with line 113:

"Again, of course, the part of the apparatus from the union downwards"—may I parenthetically insert that is of Figure 2—"from the union g downwards can be attached to any ordinary domestic water tap for household use."

Q. And what does he say in the next two lines with respect to plain drinking water?

A. (Reading) "When plain drinking water is aerated the visible air bubbles soon disappear, although if the aerated water is examined under a powerful lens the air is seen in suspension for some time afterwards. If, however, any fruit juice syrup, cordial, or spirit is introduced (Tr. 676):
the aeration is held for a longer time according to the density and colloidal properties of the blended liquids."

Q. Do you understand from that portion you have read that if you wanted to use the device for aerating water in a home by securing it to an ordinary water tap or faucet that that could be accomplished?

A. Yes, sir.

Q. And you likewise understand that if you did not want any syrup you could shut the control valve s, and in that case there would be dispensed only aerated water?

A. Yes, sir.

Q. Now you do find in Battersby a device which is specified for attachment to a water faucet or tap; correct?

A. Yes, sir.

Q. And likewise an apertured diaphragm containing a single opening, extending across the passage of water from the faucet downward?

A. Yes, sir.

Q. And do you find a chamber below that aperture, enlarged with respect to the aperture, which receives water at high velocity?

A. Yes, sir.

Q. Do you find in Battersby a structure wherein, due to the high velocity of the water and the pressure drop at (Tr. 677):
the aperture, air is sucked into the chamber?

A. Yes, sir.

Q. Do you find within the chamber, projecting from the walls thereof, a mixing device against which the water impinges?

A. Yes, sir.

Q. Do you find that impinging member, or the member which projects inwardly from the wall, that it is adjustable?

A. Yes, sir.

Q. Now if I found that I was getting too much resistance in the breaking up of water, due to the member u, what would I have to do to get less resistance?

A. Withdraw a portion of the peg or stem u outwardly from within the pipe 1.

Q. And, if the reverse were true, what would I have to do?

A. Well, you screw u in further until you get sufficient resistance.

Q. The questions that I have just asked you are explained in the Battersby specification?

A. Yes, sir.

Q. They are not of your own concept or imagination?

A. No.

Q. And below the member that extends in from the sidewall, against which the jet of water impinges, you find (Tr. 678):

what Battersby calls an anti-splash device?

A. Yes, sir.

Q. Is it your understanding that an anti-splash device would help bring about a more coherent stream?

A. Yes, sir.

Q. Now would you get from a Battersby device an aerated stream of water?

A. Yes, sir.

Q. I next call your attention to the Solomon patent, which is Defendant's Exhibit 44-10, and there has been some explanation about it, but I am first going to ask you to tell me its title.

A. The title is "An Improved Device for Aaerating a Liquid after it has Passed Through the Nozzle of a Tap."

Q. Now will you proceed to discuss the Solomon patent; and this time I am going to ask you to stick to the patent instead of any chart.

A. I first would like to call your attention to the complete specification, which begins on the bottom of page 2, and may I read from the statement beginning on line 96:

"The invention relates to a device, adapted to be con-

(Tr. 679):

nected to the nozzles of taps, particularly the nozzles of beer taps, and the nozzles of beer engines, by means of which liquid after it has passed through a nozzle will be aerated and a foam or froth produced."

Q. I wish you would turn first to the type of device shown in Figures 1, 2, and 3.

A. The simplest form of the device is shown in Figures 1 to 5, inclusive, and it includes a member 1, which is solid

at the top and hollow on the inside, and the solid part at the upper end of the device has four vertical throughways or passageways, numbered 4, extending therethrough. They can best be seen in Figures 3 and 4. Now, alternating with those four vertical passageways are sort of right-angle-shaped air-inlet passageways, which are designated by the numbers 5 and 6, as best seen in Figure 2.

Q. Those openings 5 and 6, 6 is the horizontal portion and 5 is the vertical portion?

A. That's correct. As explained in the specification, the passageways 4 are for the liquid that passes through the aerator; the passageways 6 and 5 are the passageways for the movement of air down into the mixing chamber, which is the hollow part of the device. Furthermore, the wall of the device carries four pegs numbered 8 which are aligned one with each of the vertical passageways 4, so that the jet of liquid passing from the passageway 4 im-

(Tr. 680):

pinges upon one of the pegs 8 and, since there are four passageways numbered 4, there are also four pegs arranged to receive the four jets of liquid discharged.

Q. Mr. Lettvin, I notice that in Figure 1 there is shown in dotted lines a member or element referred to by the reference numeral 9. Do you know what that is?

A. That is a connector, for connecting to a source of fluid. Let me see if I can find that in the specification. I don't spot that right offhand. Oh, yes, page 3, line 124: "9 indicates part of a length of rubber tubing by which the device may be attached to the nozzle of a beer tap."

Q. Would it make any difference if, instead of using a rubber tube, you used a screw-threaded union for connecting it to the faucet that had screw-threads to coincide?

A. None whatsoever.

Q. In other words, 9, in your opinion, is the equivalent of a faucet end?

A. Yes, sir.

Q. And the device shows on the outside some corrugated or screw-threaded portions for better attaching to the element 9?

A. Yes, to the rubber connector.

Q. And the device wouldn't work any different whether the water was fed in through a rubber tube or through a brass faucet?

(Tr. 681):

A. No; that's correct.

The Court: We will take a recess until nine-thirty tomorrow morning.

(Thereupon, at 4:55 p. m., an adjournment was taken until 9:30 a. m., Thursday, October 13th.)

THURSDAY, OCTOBER 13, 1955

(The trial was resumed at 9:30 a. m., Thursday, October 13th, pursuant to adjournment on October 12th.)

The Court: All right, gentlemen, proceed.

Mr. Ely: If Your Honor please, I would like to put some dimensions in the record. We had a chance to measure some devices that were put in, and I would like to put those dimensions in, if I may. It has to do with the Felten models.

The Court: Just a minute. When we recessed court Mr. Lettvin was on the witness stand.

Mr. Freeman: It's agreeable to me, but I don't see why we can't do this either on your rebuttal or sometime.

The Court: Let's go along with the witness.

(Tr. 682):

NORMAN LETTVIN resumed the stand and testified further as follows:

DIRECT EXAMINATION (Con't)

By Mr. Freeman:

Q. Mr. Lettvin, yesterday, I think, you were talking about the first form, or the first few figures, of Solomon; correct?

A. That's right.

Q. Now will you continue with your explanation of the Solomon patent?

A. Yes. I believe I described the general construction of the device—

The Court: Don't repeat, now, what you have already gone over.

The Witness: No, sir, but I believe that two statements were not brought in at that point to complete the description of the operation of the device.

Q. (By Mr. Freeman): All right, proceed to put that in.

A. Just two statements. First, on page 3, column 1, begininng with line 30 and running to line 42, may I quote—and he is here describing his device:

"The walls or sides of the lower or hollow part of the cylinder are provided at a suitable distance below the upper solid part of the cylinder with holes into which are driv- (Tr. 683):
en pegs of suitable length which converge towards the center or axis of the cylinder and are transversely disposed with respect to the passages that extend from end to end of the solid part of the cylinder, and serve as a means for breaking up the liquid as it emerges from the lower ends of said passages."

Q. Now those pegs which serve as a means for breaking up the liquid are positioned below the inlet openings where the air comes in; correct?

A. That's correct.

Q. And those pegs project in from the sidewalls?

A. That's right.

The Court: Aren't they demonstrated by Fig. 16?

The Witness: They are shown as Figure 16, but presently we are discussing Figures 1 to 5, which is the first form of the device, which is the simplest form of the device.

The Court: They are also shown in Fig. 5?

The Witness: That's right, as elements 8.

Q. (By Mr. Freeman): I am going to ask you, those pegs are in alignment with the jet of water that comes through each of the orifices or openings—and I think the reference numeral is 4?

A. That's correct.

(Tr. 684):

Q. So that there is shown in Figure 5 four such pegs that converge each toward the other?

A. That's correct.

Q. And there are likewise shown in Figure 4 four openings which are numbered 4, reference numeral 4, and the four openings are alignment with the pegs 8; is that correct?

A. That's correct.

Q. And is it true that the air-inlet openings shown at 5 and 6 in Figure 2 are spaced in between the openings 4?

A. Yes, sir. I believe the specification uses the term "alternately disposed."

Q. Now is it true that as the jets of liquid pass out of the openings 4 into the enlarged open space or hollow part, I believe Solomon refers to the portion which includes the pegs 8, will there be a suction at that particular point?

A. Yes.

Q. And that suction draws in air from atmosphere surrounding the unit?

A. Yes.

Q. And are the streams, the four that pass through the openings 4, are they, with respect to the surrounding air, within the chamber in the form of naked streams?

A. Yes. May I also add that, because the holes are shown as lying immediately adjacent the wall of the casing 1, there will be perhaps a line contact only between (Tr. 685):
each of the jets and the wall of the casing, but otherwise they are completely surrounded by air that is drawn in.

Q. And what happens to the air and water as we move downstream within the Solomon unit at the time the pegs 8 are engaged?

A. May I read that to you from the specification?

Q. Make it as short as possible.

A. Yes. That is the other portion I was going to read, at the end of page 3, the last three lines, and running onto page 4:

"When a tap provided with the device is opened liquid will flow through the set of passages 4 that extend from end to end of the solid part 2 of the cylinder 1 and will impinge on the transversely disposed pegs 8, causing turbulence of the liquid. At the same time air will be drawn through the other set of passages 5 and become mixed with the liquid, thereby aerating same and causing a foam or froth to be formed on the upper part of the liquid when the latter is drawn off into a glass or vessel placed below the device."

Q. Now, Mr. Lettvin, I am going to ask you, as an engineer, would it make any difference whether you drove pegs in from the wall or you took a solid body and cut out a portion so as to provide pegs integral with the body.

(Tr. 686):

A. None whatsoever.

Q. Would it make any difference if you provided interrupted shoulders extending in from the body instead of pegs?

A. None whatsoever.

Q. And it wouldn't make any difference whether those shoulders were cut out of a solid piece of bar stock or were put in by some attachment?

A. That's correct.

Q. Would it make any difference, so far as the impingement or striking of the jets of water—I shouldn't say water; liquid—in the Solomon device, if we had an annular shoulder extending inwardly from the walls of the part marked 1 in the drawings?

A. I might have to say that if you had the annular shoulder in the casing, in order to preserve the central outlet, you would then have to incline the jets so that they would hit the wall of the casing, or make the casing even larger and preserve some sort of central hole.

Q. In other words, what we have in the pins 8, or pegs 8, as Solomon calls them, is an obstruction to the flow of water; correct?

A. Correct.

Q. And that obstruction, his specific form, causes the breaking up of the water and mixes it with air; is that cor-

(Tr. 687):

rect?

Q. Is that what you gather from the words you read a moment ago when the patentee states: "At the same time air will be drawn through the other set of passages 5 and become mixed with the liqlid, thereby aerating same"?

A. Yes, sir.

Mr. Freeman: I want the record to show I did not read the complete sentence, I stopped a little short of it, but I was reading only a part of what you referred to earlier, Mr. Lettvin.

Q. Now I note in Figure 7 that the pegs 8 below the openings 5 are much closer to the openings than are the pegs 8 in Figure 2. What have you to say in that regard?

A. In that regard, the closer spacing of the pegs 8 to the outlet ends of the liquid passages would contribute to a more thoroughmixing of the liquid and air within the device.

Q. Is that because the further away you get from the orifice the greater the spreading out of the jet?

A. Precisely. When a jet leaves an orifice it begins to spread out and the further away you get the more spreading out occurs?

Q. Is that like a garden hose, when you start with a jet of one diameter it spreads out as it mixes with atmosphere?

(Tr. 688):

A. That's a pretty good analogy.

Q. Can you tell me, from just a visual inspection with the eye, whether or not pegs 8 in Figure 2 appear to be smaller in diameter than the pegs 8 in Figure 7?

A. The pegs in Figures 7 and 8 appear to be larger than the pegs in Figures 2 and 3.

The Court: They are both based on a different scale altogether?

The Witness: Yes, sir.

The Court: They are proportional, though, aren't they?

The Witness: Yes, sir.

The Court: They are proportional in each one, but the scale in each figure differs from the scale or plan in the other?

Mr. Freeman: What I was trying to arrive at here was that the pegs were much closer to the orifices in Figure 7 and, therefore, the liquid does not have to pass as far, and Figures 2 and 7 illustrate proportioning.

The Court: All right.

Q. (By Mr. Freeman): Now will you tell us quickly the difference between Figure 2 and Figure 7? Do it just as quickly as you can.

A. Yes. May I just point this out: In Figures 7 and 8 there is added to the device that is substantially shown in Figures 2 and 3 an apparatus which is described in the specification as an anti-drip device, and that additional structure is shown in the upper portion of the body. It is added upstream, or above the point where the liquid discharges from the vertical passageways in the solid portion of the body. Very briefly, there is a recess within the upper portion of the body within which is positioned a light spring 12 and a valve member 11. The uppermost portion of the device has an apertured disc 13 positioned therein, and the valve member 11 is adapted to abut and close the orifice 14 therethrough when the liquid is drawn off. The spring 12 serves to bias the valve number 11 upwardly. Might I point this out: that in the original provisional specification number 21,752, which was filed August 3, 1932, the description encompasses principally Figures 1 to 5. Thereafter a second provisional specification was added as an improvement, and that was number 24,024, and filed on August 27, 1932. So, from that, I deduce that the improvement of the anti-drip device was merely an improvement over the simplest or basic form of the device shown in Figures 1 to 5. (Tr. 689):

Q. I notice you used the words "a light spring."

A. Yes.

(Tr. 690):

Q. Where do you get that justification?

A. From the specification.

The Court: That is all described on page 4, in the first column there, isn't it, beginning with line 11?

The Witness: Beginning there, that's right.

The Court: And going on down to line 30?

The Witness: Approximately.

The Court: It continues on down through that column?

The Witness: That's correct.

The Court: I see it is mentioned down there as low as line 48.

The Witness: The words "light coil spring 12" are found particularly on lines 23 and 24 of the first column on page 4.

Q. (By Mr. Freeman): Now, Mr. Lettvin, if you were operating a device at thirty pounds pressure, would you say that a spring of twenty-five pounds, which gave you a five-pound differential, for operating characteristics, would you call that a light spring?

A. No.

Q. If you took a device and considered the drawings as full size, as shown in Figure 7, do you think it would take a twenty-five pound spring pressure to close the member 11 against the aperture 14?

(Tr. 691):

A. No. May I say that the spring must exert a force at least equal to the weight of the valve member 11 plus whatever additional force is desired to close that.

The Court: As I understand this device here you are talking about, that member 12, its object is to cut off the drip?

The Witness: When you have got it turned off.

The Court: When you have the pressure turned off?

The Witness: That's correct.

The Court: And it doesn't take much, with the pressure turned off, to push it back in position?

The Witness: Correct; all that spring has to exert is the weight of the valve member.

Q. (By Mr. Freeman): Mr. Lettvin, in connection with Figures 7 and 8, I am going to hand you a chart, which I am going to ask the Clerk to mark as Defendant's Exhibit 44-10-A, and will ask you to explain it as quickly as you can, in view of what you have already stated with respect to Figures 7 or 8 of the Solomon patent.

(The chart referred to was received in evidence as Defendant's Exhibit 44-10-A.)

The Court: Show me the coloring there, and then I think we can understand it.

The Witness: The yellow is the chamber in which the mixing of the liquid and air takes place.

The Court: That is true in both Figures 7 and 8? (Tr. 662):

The Witness: That's right. Incidentally, Figure 7 is at about a forty-five degree angle to Figure 8, and that's why the pegs appear a little differently.

The Court: Go ahead. The color scheme is what we are talking about now.

The Witness: The pegs in the path of the liquid, for mixing liquid and air, are number 8, and they are colored red.

The Court: In both figures?

The Witness: In both figures. In Figure 8, on the right-hand side of the chart, the lower ends of the passage-ways through which the liquid is discharged—

The Court: Into the chamber?

The Witness: Into the mixing chamber—are colored blue. On the left-hand side, in Figure 7, the apertures through which air is drawn into the chamber from outside

the body are colored orange, and, at the upper end of the device, the restricted orifice in disc 13 is colored purple.

The Court: And that is true in both figures?

The Witness: In both figures, yes, sir.

The Court: This one over here on the right-hand side, Figure 8, what did you say the green there represents?

The Witness: When you say the green, those are blue, but they represent the lower ends of the liquid passageways through which the liquid is discharged into the chamber.

(Tr. 693):

The Court: Where are the air vents shown in Figure 8; what color?

The Witness: They are not shown in Figure 8. They are shown in Figure 7 in orange.

The Court: I see.

The Witness: Figure 8 can not show the air vents because they are hid behind the liquid passageways, because they are alternately disposed. You have to turn the body about forty-five degrees before you see the air vents. Similarly, in Figure 7 you see only the air vents, but don't see the liquid passageways.

Q. (By Mr. Freeman): In other words, if on a circle, the air vents and the liquid inlets are alternately spaced?

A. Right.

Q. And in Figure 7 the section was taken through the two opposite air inlets; correct?

A. That's correct.

Q. And in Figure 8 the section was taken through two of the liquid inlets?

A. That's correct.

Q. The relative positions of the pegs with respect to the liquid inlets are shown in Figures 10 and 11?

A. That's correct.

Q. In other words, they are rotated a slight amount? (694):

A. Right.

Q. Now I am going to hand you another chart which we will ask to be marked Defendant's Exhibit 44-10-B and will ask you to explain just what it illustrates, not repeating anything that you have said in connection with the patent and the earlier chart, if you can help it.

(The chart referred to was received in evidence as Defendant's Exhibit 44-10-B.)

A. Defendant's Exhibit 44-10-B is an exemplitive drawing of Solomon's Figures 7 and 8 and with certain sections taken on Figure 8 when the device is in operation and when the valve member is depressed, as it would be during the operation of the Solomon device.

Figure A is substantially that of Figure 7 of Solomon. Figure B is substantially Figure 8 of Solomon, with the further point that the valve member has been depressed as it would be when liquid is flowing through the Solomon device. Figure D is the uppermost section through Figure B and as shown there. Figure C is a lowermost section through a portion of the Solomon device, as shown on the chart too.

Incidentally, the point that the Court raised with respect to where the air inlets and the liquid inlets are with respect to each other is most clearly shown in Figure C, where you can see how the sections A and B are, taken at forty-five (695):

degrees with respect to each other.

Q. Isn't it a fact that the small openings in Figure C shown in solid lines are the liquid openings?

A. Yes, sir.

Q. And I note in between each of the liquid openings, or between two of them, there appears to be a circle in

dotted lines, with two lateral lines extending to the periphery of Figure C. What does that indicate?

A. Those are the air inlets.

Q. In other words, there is an air inlet between two of the liquid inlets?

A. Correct.

Q. And the air inlets are opened up to the outside, or atmosphere?

A. That's correct.

Q. And they extend in horizontally and then turn downwardly and are positioned so that air flowing therein travels in the same direction or in a parallel direction with the incoming liquid; correct?

A. Correct; as they enter the mixing chamber.

Q. Now I notice that you take one section of Figure D at the point shown in Figure B by the section line DD, with the arrows indicating that in the view you are looking downward?

(696):

A. That's correct.

Q. And you then have, do you not, a solid outside member?

A. Yes.

Q. And a plurality of openings that connect up together in that horizontal plan?

A. Correct.

Q. And you have sectioned the inner circle, which is the non-drip or closure member, which is positioned within that portion of the body; correct?

A. Correct.

Q. And I note that when you proceed further down and take a section through that same body at CC, as indicated in Figure C, you then have only a solid portion, pierced only by four inlet openings?

A. Correct.

Q. So that as the liquid enters within the upper portion of the Solomon device, as illustrated in Figure 2, we find liquid, if you could just cut the device at the section line DD, in a different condition and in a different formation than when the same liquid, passing downwardly, or downstream, passes through the four openings shown in Figure C?

A. Correct.

Q. Now, Mr. Lettvin, I am going to ask you to take a red pencil and, on the chart that you have, Defendant's (697):

Exhibit 44-10-B, indicate in Figure A an arrow line for the incoming air. Will you write the words "Air Inlet;" and will you do the same on the Court's copy?

(Witness marks and writes on Fig. A of Exhibit 44-10-B, as requested.)

Q. Now will you put an arrow on Figure B, indicating the liquid inlet?

A. Into the air chamber, or through the entire device?

Q. Well, just show where the liquid first comes in, and have a continuing arrow.

(Witness marks on Fig. B of Exhibit 44-10-B, as requested.)

Q. Will you mark opposite the arrows that you have just made in Figure B the word "Liquid"?

(Witness writes on Fig. B of Exhibit 44-10-B, as requested.)

Q. Will you do the same on the Court's copy?

(Witness marks copy as requested.)

Q. Will you now proceed to describe Figures 13 and 14, or that particular exemplification in the Solomon patent, explaining the difference rather than going through all the details?

A. Well, Figures 13 and 14 are a further improvement over Figures 7 tand 8, or, I should say, modification, and

(698):

it shows a different type of apertured diaphragm at the upper end of the device and a different type of spring-press valve member which operates as an anti-drip device. Furthermore, there is other structure, including a washer 26, which is operative to keep the entire assembly together as a unit—it is a valve member that was adapted to be slipped in so you wouldn't lose the spring; that's briefly what it is.

Q. I am going to hand you a chart which has been marked Defendant's Exhibit 44-10-C, illustrating Figures 13 and 14, and will ask you to explain that chart and the sectional views thereon.

(The chart referred to was received in evidence as Defendant's Exhibit 44-10-C.)

A. Defendant's Exhibit 44-10-C is again an exemplification drawing of Solomon's Figures 13 and 14 and on sections at C′C′ and D′D′, as indicated on Figure 14 of the exhibit. The structure is substantially as shown in Figure 13, that is, the upper left-hand figure, and in Figure 14 it is substantially as shown in Figure 14 of Solomon. Figure C′ and Figure D′ are arranged respectively below Figure 14.

Q. And I note that, instead of a flat member, referred to by reference numeral 13 in Figures 7 and 8 of the Solomon patent and as shown on Defendant's Exhibit 44-10-B, with an opening 14 therein, the arrangement of Figures 13 and 14 include a member having a conical opening in the

(699):

upper portion of the device.

A. That's correct. That's as shown in Figures 13 and 14 of the patent.

Q. Now, in so far as general makeup is concerned, is there any material difference as to whether you have the

form of opening as we find in the disc 13 in Figure 7 and the member 20 in Figure 13?

A. There is some difference, but, from a general standpoint there is none—when I say some difference, the conical inlet to the aperture 22 through the diaphragm in Figures 13 and 14 may reduce the losses that the liquid would sustain in passing through a sharply defined orifice as Figures 7 and 8, but that is a well-known expedient.

Q. Now I note, from a structural standpoint, that the member 13 in Figure 8 appears to be lapped in or spun in and held by the outside of the casing 1. Is that correct?

A. That is correct.

Q. Whereas, in Figure 13 the member is retained in position by being inserted within the body 1?

A. That's correct.

Q. That, again, is an expedient of manufacture?

A. Yes. It provides for easier disassembly in Figures 13 and 14.

Q. Now will you tell us the purpose of the illustrative (700):
portion of Exhibit 44-10-C, particularly the Figures D′ and C′?

A. Yes. When liquid is flowing through the device shown in Solomon's Figures 13 and 14 the valve member will be depressed to the position shown in Figures 13 and 14 in Defendant's Exhibit 44-10-C. When section lines, as shown at D′D′ and C′C′ are taken, as indicated, you find, as shown in Figure D′, an apertured diaphragm having a single annular aperture therethrough, and in Figure C′ you find an apertured diaphragm having four liquid passageways therethrough.

Q. So that if you take and cut the upper portion of the Solomon device shown in Figures 13 and 14 above the air inlets which come in from the side there below, you find

that the liquid at those particular places is of different formations?

A. Yes, sir.

Q. Now is it true that in Figure D' of Exhibit 44-10-C the liquid there is in an annular form?

A. Yes.

Q. And thereafter, as the liquid moves downstream, it assumes a jet or stream formation defined by the four openings shown in Figure C; correct?

A. Yes, sir.

Q. Now I am going to ask you quickly to take Defend- (701):
ant's Exhibit 44-10-C and indicate the air inlets and the liquid inlets, just as you did with 44-10-B.

(Witness marks and writes on Defendant's Exhibit 44-10-C, as requested.)

Q. And will you do the same on the Court's copy?

(Witness complies with request of counsel.)

Q. Now, while we are talking about Solomon, I am going to call your attention to the Aghnides British patent, which is in evidence as Defendant's Exhibit 14. You will recall that I asked Mr. Aghnides to read lines 27 to 41 thereof and I asked him if that referred to the Solomon structure, and he told me that I could accept it as that if I wanted to. I am now going to ask you, with your knowledge and ability to read patents, as to whether or not you can state what device is there referred to.

A. Solomon.

Q. What basis do you have for saying that Solomon is the device referred to there by Mr. Aghnides in his patent?

A. There are two bases; one, the description fits Solomon, to use a colloquial expression, like a glove, in that the description is of a tubular member—I am quoting—"a tubular member having a lower hollow part and a rela-

tively solid upper part in which were arranged liquid passages alternating with short passages communicating with
(702):
atmosphere at the sides of the device, whilst the lower hollow part supported a number of pegs below and transverse to the liquid passages." That is a very accurate description of the Solomon device.

Q. Do you have substantially the same words in the claim of the Solomon patent, which is in evidence as Defendant's Exhibit 44-10?

A. Yes.

Q. Will you read from the claim those words that describe the solid portion of Solomon and the hollow portion of Solomon?

A. Yes. Calling attention to claim 1 of the Solomon patent, which is Defendant's Exhibit 44-10, and beginning on the last line on page 4, in describing the claims—

The Court: Which column?

The Witness: The second column, the very last line in describing the claimed device, just in the middle it says: ". . . a lower hollow part and a relatively solid upper part."

Q. (By Mr. Freeman): Now those words are identical, without any change or transposition, as is found in lines 29 and 30 of the Aghnides patent?

A. Correct.

Q. Proceed.

A. Then, continuing: ". . . passage in said relatively
(703):
solid part serving as throughways for the liquid, passages alternating with said throughways, which extend only partly through said relatively solid upper part and communicate at their outer ends with the atmosphere, and pegs supported by the hollow part of the cylinder of the device in positions below and transverse to said throughways."

Q. While those words are not in identical form, we do find in the Aghnides British patent, Exhibit 14, the following: ". . . in which were arranged liquid passages alternating with short passages, communicating with atmosphere at the sides of the device, whilst the lower hollow part supported a number of pegs below and transverse to the liquid passages." Do you find substantially the equivalent in the claim of the Solomon patent, claim 1?

A. Yes, sir.

Q. And do you, from that, state as your opinion that the device there referred to was the Solomon patent?

A. Yes, sir.

Q. Is it also true that when the British application was filed by Mr. Aghnides no such paragraph was included in the application as originally filed—and I am handing you certified copy of the British application as filed, Defendant's Exhibit 41.

(704):

A. That is absolutely correct.

Q. You have made that check?

A. Yes, I have.

Q. Now will you tell the Court, from the certified copy that you have, whether or not the Solomon patent was cited by the British Patent Office against the Aghnides application after he filed his application?

A. Yes, sir. It appears on the last page of the certified copy from Great Britain, Defendant's Exhibit 41.

Q. And what is the patent number there referred to?

A. The last page contains a list of the references that were cited during the prosecution of the British Aghnides patent, and the reference referred to, the first one on the list, is 405,316, and that—

Q. I was going to ask you does that certified copy that you have give any name of the patentee of the cited reference?

A. No.

Q. It only gives the number?

A. Yes.

Q. And does that number, 405,316, correspond in number to the Solomon patent, Defendant's Exhibit 44-10?

A. Yes, sir.

Q. Can we call the upper portion of the Aghnides pat- (705):

ent, or of Figure 1, that part including the apertured diaphragm 16 and the portion thereabove, an injector portion?

A. I take it you are referring to the first Aghnides patent.

Q. To the first Aghnides patent, particularly Figure 1.

A. Yes, you may refer to that as an injector portion.

Q. Do you recall Mr. Aghnides taking rather violent exception to my use of that term, injector portion—and I am now asking you what justification do you have for referring to that portion of the Aghnides patent, Figure 1, as an injector portion?

A. Mr. Aghnides' own patent in Britain, that is, a later issued patent than the one that's already in evidence, which is Defendant's Exhibit 14.

Q. Now the British patent that you referred to—I am sorry I do not have any extra photostatic copies; I just received this in the mail this morning—includes a figure corresponding exactly to Figure 1 of the first patent in suit, does it not?

A. Yes, sir.

Q. And that application was filed on what date?

A. June 22, 1938.

Q. And will you there refer to any portion of the specification which justifies your statement that the U. S. (Tr. 706):

patent, Figure 1, that part above the air inlets but including the apertured diaphragm 16, may be referred to as an injector portion?

A. Well, here is one place—

Q. Will you give the line and then read it, because we only have one copy?

A. Page 1, column 1, lines 8 and following:

"In the specification of my Letters Patent No. 468,687 I have described a device for intimately mixing air with a liquid flowing under pressure, wherein an injector portion is provided, upstream of the part where it aspirates air, with a perforated cross partition that divides the stream of liquid into a number of small streams, and downstream of said part with an atomizing and mixing part comprising one or more finely perforated plates."

Mr. Ely: What is the number of that patent?

The Witness: That is 625,084, and it is dated June 22, 1949.

Q. (By Mr. Freeman): I notice the word "aspirates." Is that the exact word that is used there?

A. Yes, sir, "aspirates air."

Q. The word "aspirates" is used in the British patent for describing that which is shown in Figure 1 in the first U. S. Patent here involved; correct?

(Tr. 707):

A. In this sentence they are referring to the previous British patent, but what they say is exactly what takes place in Figure 1 of the U. S. patent 2,210,846.

Q. Incidentally, the British patent which you have in your hand, number 625,084, includes a figure corresponding to Figure 4 of the U. S. patent; correct?

A. Yes, it does.

Q. And does it likewise include a figure corresponding to Figure 6 of the first U. S. patent; or, if there are any differences, will you point them out?

A. Figure 5 of the British patent 625,084 is similar in all respects, all except one respect, with Figure 6 of the Aghnides U. S. patent 2,210,846. The only difference is that, while Figure 6 in the United States patent has but one screen at the lower end, Figure 5 in the British patent has two screens at the lower end.

Q. Now I am going to ask you with respect to the injector portion—and you read from the specification. Will you turn to the claim made by Aghnides in the British patent and tell me what is there stated in connection with the term "injector"?

A. May I read from page 3, beginning with line 11—and this is the only claim in the patent:

"A device for producing a jet of water containing air (Tr. 708):
bubbles, comprising an injector portion which is provided, upstream of the part where it aspirates air . . ."

And then it continues. That is not the end of the claim. I stopped in the middle.

Q. Will you read on just a little?

A. (Reading) ". . . with a perforated cross partition and downstream the said part with an atmosing and mixing part comprising one or more finely perforated plates . . ."

Do you want me to continue?

Q. No, that is sufficient, unless someone else wants you to read on.

So that the term "injector part" or "portion" doesn't necessarily define a vacuum pump, does it?

A. No, sir.

Q. Now in the Felten vacuum pump, as referred to by Mr. Aghnides and as illustrated on Plaintiff's chart—I believe the exhibit number is 46—would you just indicate to the Court that portion of the Felten illustration that may be referred to as an injector portion or part?

A. Yes; this orifice C, which terminates at approximately this point, just above or just where it meets the channel which brings in air, the portion above it.

Q. In other words, that portion above the part indicated in red on Plaintiff's Exhibit 46?

(Tr. 709):

A. That's correct.

Q. And the red indicates the inlet?

A. The air inlet.

Q. Now will you refer to the Aghnides fluid mixing device, which has been labeled "Aerator" in Plaintiff's Exhibit 46, and point out that portion of the device which may be referred to as an injector portion?

A. It is the portion immediately above the—it appears that the air inlets open directly into the top of the mixing chamber, so, therefore, it is the portion immediately above the air-inlet openings and the portion which defines the upper side of the mixing chamber.

Q. In other words, the diaphragm and the portion up above is an injector portion?

A. Yes, sir.

Q. And that is the way it is described in the British patent to Aghnides, which corresponds to Figure 1 of the U. S. first patent?

A. That's correct.

Q. Do you find any justification for selecting, as Mr. Aghnides did, that the injector portions or the parts are comparable, when he drew his dash line indicating that portion of Felten which he referred to as an injector; in

other words, you note there is a line that is normally intended, when making a comparison, to show that the parts (Tr. 710):

above the line in one may be comparable to the parts of another device—now do you know of any reason why Mr. Aghnides went way below the red portion, which is the air inlet, and went into the flared portion, or the portion closely adjacent the flared portion, for supporting his comparison.

A. I know of no reason.

Q. Would it have been proper, in view of what Mr. Aghnides stated to the British Patent Office, to have had the line cross-secting the Felten device just above the red air inlet?

A. It would have been more proper; it would have been correct. It would have been consistent to do it on both that way.

Mr. Freeman: I am going to offer in evidence as Defendant's Exhibit 45 the British patent to Aghnides, number 625,084. I am also going to ask permission of the Court if I can take it out this noon and perhaps I can get photostats made.

The Court: All right.

(The patent referred to was received in evidence as Defendant's Exhibit 45.)

Q. (By Mr. Freeman): Mr. Lettvin, I call your attention to the chart model, Defendant's Exhibit 37, together with the three inserts, Defendant's Exhibits 37-A, (Tr. 711):

37-B and 37-C, respectively, and I will ask you if the three inserts graphically disclose the difference in subject-matter as to claims 1, 2, and 3 of the second Aghnides patent.

A. They do.

Q. Now, Mr. Lettvin, will you turn to the second Aghnides patent and look first at the upper figure, which is Figure 1? I am going to ask you if I am correct in my description of that part which is identified by the reference numeral 17 as foraminous member.

A. Yes.

Q. Am I also correct if I refer to that same part, number 17, as a restricted orifice?

A. Yes.

Q. Am I correct in referring to the part, number 23, as an apertured diaphragm?

A. Yes.

Q. That part, number 23, is shown in Figure 2?

A. Correct.

Q. Could I also call it a formanious member?

A. Yes.

Q. May I also call it a screen?

A. Yes.

Q. Am I correct in calling part number 22 a restricted orifice?

(Tr. 712):

A. Yes.

Q. And, of course, 24 is likewise an apertured diaphragm?

A. Correct.

Q. Am I correct in referring to number 35, shown in Figure 3, which has only one opening in it, that is a relatively solid plate member with an opening in it about the same diameter as the thickness of the metal, as an apertured diaphragm?

A. Correct.

Q. Am I correct in referring to the opening 32 in Figure 3, a single opening, as a foraminous member?

A. Yes.

Q. Likewise am I correct in referring to that same identical opening as a restricted orifice?

A. Yes.

Q. In other words, I am correct in using the same physical makeup of a device having a single opening in it, calling it either an apertured diaphragm, a restricted orifice, or a foraminous member; correct?

A. Correct.

Q. Now, Mr. Lettvin, I am going to ask you what you find within the patent or the file wrapper of the second Aghnides patent for justifying either an opening in a plate being referred to as an apertured diaphragm, or a plural-
(Tr. 713):
ity of openings in a plate being referred to as an apertured diaphragm or a foraminous member, or, where a single opening is provided in the device, that it be referred to as a foraminous member.

A. You find that in the file wrapper, primarily, of the patent 2,316,832, and particularly in the brief to the Board of Appeals.

Mr. Freeman: Now I want to state on the record—I will be glad to have you follow me if you will check from the file wrapper of this patent—that Figure 1 of the patent in suit, at the time these claims here involved were before the Board, that figure was Figure 3; and that Figure 2 at that time was Figure 4; and that Figure 3 at that time was Figure 6.

I make that statement because it makes the reading of the portion we are going to read applicable, because, when they are talking about Figure 1, if you put Figure 3 on the outside of that, and Figure 2 was Figure 4, and Figure 3 was Figure 6.

I am also going to say that claim 15 referred to in the application is claim 1 of the patent; claim 16 became claim

2 of the patent; claim 17 became claim 3 of the patent; and claim 18 became claim 4 of the patent.

Perhaps I will read into the record, instead of letting (Tr. 714):

the witness do it, the portion that justifies the use of the words "restricted orifice," "foraminous member," and "apertured diaphragm" indiscriminately in connection with the three figures here involved. I now read from page 42 of the file wrapper, Plaintiff's Exhibit 17; and, so that I read it in its entirety, I am going to read the entire paragraph, although the first sentence is not necessarily applicable:

"The remaining claims are specific to certain elements of structure disclosed in various species. Claim 15 is limited to 'a foraminous member upstream the apertured diaphragm'. This reads on aperture 17, Fig. 3; screen 23, Fig. 4; aperture 32, Fig. 6."

So much for the quote in connection with claim 15, which became claim 1 of the patent in suit.

Q. (By Mr. Freeman): Now do you find in Defendant's model chart, Exhibit 37-A, the portion comparable to the quoted portion by Mr. Aghnides in his brief, to-wit, "a foraminous member upstream the apertured diaphragm"?

A. It is Defendant's Exhibit 37-B, and I do find it.

Q. So that, in so far as that structure, to-wit, a foraminous member, it can be a single opening such as 17?

A. Correct.

Q. Or it can be a single opening in a member like 35? (Tr. 715):

A. 32.

Q. 32. And it can be a screen such as 23?

A. Correct.

Q. Incidentally, is there any difference illustrated, in so far as you can visually note, between what is called a screen 23 in Figure 2 and that member 24 which is referred to as an apertured diaphragm?

A. It looks like it might be a little thinner vertically, but, other than that, I can't see any difference.

Q. Does 23 look like a plate that has a bunch of perforations therein?

A. Yes.

Q. And does 24 look like a plate that has perforations therein?

A. Yes.

Q. I am going to proceed to claim 16 of the application, which became claim 2 of the patent, and I am again going to read from the file wrapper:

"Claim 16 is limited to 'a restricted orifice upstream the apertured diaphragm'. Aperture 17, Fig 3; 22, Fig 4 and 32; Fig. 6, are restricted orifices upstream the apertured diaphragms 18, 24 and 35, Figs. 3, 4 and 6 respectively." Now I am going to ask to take that small portion of the defendant's exhibit illustrating the claim, particularly (Tr. 716):
claim 2 and tell me if there find the words "a restricted orifice upstream the apertured diaphragm."

A. The exhibit is Defendant's Exhibit 37-A, and I find all the words except the "a". The words are: "restricted orifice upstream the apertured diaphragm."

Q. And the "a", of course, is the immediate word preceding the insert that you find on Defendant's Exhibit 37; correct?

A. That's correct.

Q. Do you find therefrom that Figure 3, which is now Figure 1 of the patent, includes a restricted orifice, which is indicated by the number 17?

A. Correct.

Q. And do you find that 17 in Figure 2 of the patent, corresponding to Figure 4 of the application, includes a restricted orifice?

A. Yes.

Q. And so designated?

A. Correct.

Q. That is in Figure 4 of the application, Figure 2 of the patent?

A. Correct.

Q. And that 32 of Figure 6 is likewise referred to as a restricted orifice?

(Tr. 717):

A. Correct.

Q. So that, up to now, the opening 32 in Figure 3 can be called either a foraminous member or a restricted orifice; correct?

A. Correct.

The Court: Isn't that about three times we have got that same information in there?

Mr. Freeman: No, you haven't Your Honor. This is rather critical.

The Court: I think he's testified at least three times, if not four, that those words are used interchangeably and as to being synonymous, and that there is nothing in the patent that differentiates one from the other.

Mr. Freeman: That is what I want to get across, Your Honor.

The Court: It's been across to me since he first said it.

Mr. Freeman: I haven't gotten to claims 3 and 4.

Q. (By Mr. Freeman): Now claim 17 became claim 3, and it states that "Claim 17 is limited to 'a restricted

orifice and foraminous member upstream the apertured diaphragm'. This is shown for example in Fig. 4, 22 being the restricted orifice, and 23 the foraminous members."

A. Correct.

(Tr. 718):

Mr. Freeman: And the amendment, or the argument, continues: "None of those forms are found in applicant's prior patent."

At this time I am going to offer in evidence a graphic illustration of what I was trying to get from the witness, in the form of a copy of the Aghnides second patent drawings, with the various words, such as "foramiminous member," "apertured diaphragm," and so forth, referred to, and lead lines indicating the particular numbers to which they are applicable, this exhibit being numbered Defendant's Exhibit No. 46.

(The copy of drawings referred to was received in evidence as Defendant's Exhibit 46.)

Q. (By Mr. Freeman: Is it not true that in the second Aghnides patent, on lines 1 and 2 of column 2, reference is made to two spaced apertured diaphragms 23 and 24?

A. Correct.

Q. And that in line 24 reference is made to a foraminous diaphragm as 23?

A. Correct.

Q. So that the parts are referred to interchangeably in the patent specification; correct?

A. Correct.

(Brief recess taken)

(Tr. 719):

Mr. Freeman: I want to read into the record, from Plaintiff's Exhibit 17, file wrapper of the second patent in suit, a reference to claim 18 during the pending application, which became claim 4 of the present second patent.

Mr. Ely: What page?

Mr. Freeman: Page 34.

(Reading) "Claim 8, lines 4 to 6, groups the apertures 17 and 18 as 'apertured diaphragms' which do not materially differentiate from the diaphragm with orifice in the patent claim."

Now that statement is by the Examiner in the Patent Office, wherein he refers to the term "apertured diaphragms," which we find in claim 4 as the apertures 17 and 18, which we find now in Figure 1 of the patent in suit, which was, of course, number 4 while the application was pending.

The Witness: Number 3.

The Court: I thought you said Figure 1 was 3 in the application.

Mr. Freeman: I misstated myself. Three, then.

Q. (By Mr. Freeman): Now, Mr. Lettvin, I hand you a paper which I have asked to be marked for identification at this time as Defendant's Exhibit 47—

The Court: Are you going to offer it?

Mr. Freeman: Yes.

(Tr. 720):

The Court: Then why not put it in as your exhibit?

Mr. Freeman: It's perfectly all right to offer it, even though I am going to make some reference numerals on it later on?

The Court: Yes; go ahead.

Mr. Freeman: I want to state for the record that the paper which I have is a photostatic copy of the Chicago Faucet Company Change Order, and I am only using that portion of the paper which illustrates a figures above the word "Present," to which I have added in my handwriting, in red, the numbers "18-24-35," and the letters "A" and "B".

(The chart referred to was received in evidence as Defendant' sExhibit 47.)

Q. (By Mr. Freeman): Now, Mr. Lettvin, in the patent in suit, all of that shown in Figure 3—I am talking about the second patent—including the apertured diaphragm 35 a. l that part there below corresponds to what we call the first Aghnides patent; correct?

A. Correct.

Q. And is it likewise true in Figure 2 that the apertured diaphragm 24 and all of the parts there below correspond to the first patent in suit?

Mr. Ely: May I interrupt, Mr. Freeman? If what you are attempting to do at the present time is to say that the (Tr. 721):

device in that drawing that you just produced is an embodiment of the second patent, you needn't spend any more time on it. We say that it is.

Mr. Freeman: I am trying to find out wherein the second patent differentiates from the first, and if you will agree with me that in Figure 3—and I will use only that figure for the time being—the part above 35, on above restricted orifice 32 and the portion thereabove, brings about the second patent—

Mr. Ely: I have said that myself many times in this hearing. There is no use going into it. As I see, you are just taking up time.

Q. (By Mr. Freeman): Now, Mr. Lettvin, in connection with Exhibit 47, do you have there an apertured diaphragm corresponding to apertured diaphragms 18, 24, and 35?

A. Yes, I do.

Q. And are they so marked in red?

A. Yes.

Q. And I think we have agreed with counsel for the

plaintiff that from that aperture down illustrates what we have referred to as the first patent?

A. Correct.

Q. Do you find in Exhibit 47 any part or portions or elements above the apertured diaphragms 24, 35, or 18? (Tr. 722):

A. I do.

Q. And what do you find?

A. I find two members. The first member is in the form of an adaptor, having a restricted passageway therethrough.

Q. What is the reference numeral applied to that portion of the device?

A. The reference letter is "A". And the second member I find upsteam of the apertured diaphragms 18, 24, or 35 is a screen, which has been marked with the numeral, or the letter, "B".

Q. Now I am going to take that portion of claim 1 which we have on the chart, Defendant's Exhibit 37-B, an ask you if you find a foraminous member upstream the apertured diaphragm in Defendant's Exhibit 47.

A. I do.

Q. And will you point that member out?

A. Well, it could be either member A or member B.

Mr. Ely: Your Honor, I have already conceded that. He is encroaching on our time.

Mr. Freeman: Will you concede that the device which we have there, which is the Chicago Faucet device, reads on all four claims of the second patent in suit?

Mr. Ely: No, I can't say that.

Mr. Freeman: Well, that is what I am doing. (Tr. 723):

The Court: Well, go on with it.

Q. (By Mr. Freeman): Do you find that foraminous member?

A. I do.

Q. And is that in the form of a restricted orifice?

A. Yes, sir.

Q. And that member can be referred to either as a foraminous member or a restricted orifice?

A. Yes, sir.

Q. Take claim 2, and I will ask you if you find above the apertured diaphragm referred to by the numbers 18-24-35 a restricted orifice upstream of this apertured diaphragm.

A. Yes, I do.

Q. And what part is that?

A. Either of the members A or B.

Q. Now I find in claim 3 the words "restricted orifice and a foraminous member upstream the apertured diaphragm," and I am going to ask you to tell me which parts of the Chicago Faucet Company illustration, Defendant's Exhibit 47, correspond to those parts.

A. Both A and B, taken together, constitute the restricted orifice and a foraminous member upstream the apertured diaphragm 18-24-35.

Q. Now in claim 4 reference is made to superimposed—and I think I am quoting that—
(Tr. 724):

The Court: "Superposed apertured diaphragms."

Q. Now do you find in Exhibit 47 superposed apertured diaphragms?

A. Yes, I do.

Q. And what are those parts?

A. Take apertured diaphragm 18-24-35 with either of the other two members heretofore mentioned, A or B, and you have superposed apertured diaphragms at the upstream end of the chamber.

Q. Now the Examiner referred to the two apertured diaphragms as 17 and 18 in Figures 1?

A. Correct.

Q. That is, Figure 1 of the patent?

A. Correct.

Q. Do you find, then, in Defendant's Exhibit 47, parts corresponding to the apertured diaphragm 18 and that part which is referred to as 17 in Figure 1 of the patent in suit?

A. I do. The adaptor compares more closely to the way it is shown in 17 in Figure 1, that is, the adaptor A of Defendant's Exhibit 47.

Q. Then is it your position that each of the four claims of the second patent read upon the disclosure of Defendant's Exhibit 47, that single figure above the word "Present"?

A. Yes, sir.

(Tr. 725):

Mr. Freeman: That's all. You may cross-examine.

CROSS EXAMINATION

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(Tr. 781):

Q. Now, Mr. Lettvin, would you tell me which one of these references you think comes closest to Aghnides?

The Court: Didn't he cover that in the cross examination by Mr. Ely?

Mr. Adams: Well, I don't recall. I think we have covered the differences which exist between any one of them and Aghnides.

Q. (By Mr. Adams): You don't contend that any one of them is exactly the same as Aghnides, do you?

A. It depends which Aghnides are you speaking about. Are you speaking about the first patent?

Q. Well, let's take the first patent. There isn't any one that's just the same as that, is there?

A. Your question is what, now?

The Court: Which one of these references most nearly covers the Ag. ides patent?

Mr. Adams: Take them one at a time. Take the first patent.

The Court: Will that mean a rehashing of what you have just gone over?

(Tr. 782):

Mr. Adams: I hope not, Your Honor.

The Witness: There are a number of forms shown in the Aghnides first patent. Some of the forms use screens exclusively for mixing up and dividing the water. Other forms use impingement shoulders, or projections inwardly from the wall of the casing upon which jets impinge, for breaking up the water. Now I think we should make a distinction there. With respect to the screens which are used for breaking up and mixing the water and air, I consider Hyatt, Figure 5, and the British Felten patent 6,012 of 1909 to be the closest references. With respect to the use of projections inward from the wall upon which the jets impinge in order to bring about mixing water and air, I consider Solomon British patent 405,316, the Battersby British patent 323,242, and I might say the Aghnides device which uses the onion-shaped member—I think that is 1,912,113, to show impingement members or solid members upon which the water hits for breaking up and mixing water and air, to be the closest references.

Q. You take elements here and there, but you don't find any prior reference which shows the structure or the combination which Mr. Aghnides created, where you have a water aerator to be attached to a faucet which has in it means of producing one or more jets, and then apertures

(Tr. 783):

into which air may come, and then means interposed in the path of those jets for finely breaking up the stream and converting it into an intimately mixed, bubbly stream and making it coherent?

A. I do find.

Q. You do find that?

A. I said with respect to when he used screens alone I consider Hyatt and Felten to be the best references; when he uses the break-up member, or inward projections upon which the jets impinge, then I consider Solomon, Battersby and the Aghnides vacuum pump patent 1,912,113 to be the best references.

Q. You think they accomplish just what Mr. Aghnides does?

A. They mix water and air and it issues from the outlet end of those devices.

Q. Aren't you really taking the position that the differences are such that you don't think they would be anything other than obvious to the man in the art; isn't that what you are saying?

A. Whatever differences there are I would consider. I don't even find that many differences.

Q. Well, we have been over a good many of those differences. With respect to which one do you find that (Tr. 784):

there is a stream produced like the stream that Aghnides produces?

A. We saw Felten in operation. That produced a coherent aerated stream.

Q. That was really the only one, wasn't it?

A. That was the only one we saw you produce.

Q. I am asking you about your position, Mr. Lettvin, not what we have demonstrated. Which one of these devices

do you contend produces the character of stream that Mr. Aghnides produced in his device?

A. Oh, I think that Hyatt will produce that, because I might point this out to the Court: that with respect to the second patent, 2,316,832, in Figure 3, below the adaptor 31, there is shown a structure which includes a casing and a single upstream diaphragm having the single orifice 36 there through and five screens spaced below the airports 34. Now that structure, Mr. Aghnides testified, would produce a coherent aerated stream. And then I call the Court's attention to Figure 5 of Hyatt, which shows the identical structure—

The Court: What is the number of Hyatt?

The Witness: Hyatt is number 1 in the books of patents, Figure 5, on page 3 of the drawings. Now there (Tr. 785):

you have a device which includes a casing, and then you have water coming in through a restricted plate, that is, restricted with respect to the diameter of the casing, and then you have an air-inlet port W in the side of the casing, and then you have five screens below that air inlet for the mixing of the water and air to produce aeration and, as I pointed out in my direct testimony, the specification states that the screens L alone may be used in an aerating device of this type.

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REDIRECT EXAMINATION.

By Mr. Freeman:

Q. Mr. Lettvin, I want to ask you a question or two with respect to the Battersby patent. Mr. Adams called your attention to the fact that it was connected to a soda fountain device, and then called attention to the dispensing of the soda water in a violent stream. Mr. Adams

likewise asked you if there were any bubbles in the water, and I think your answer, as I gathered it, intimated that (Tr. 786):

there might be or there might not be. I am going to ask you to turn to page 3 of the patent, at line 117, and tell me what the patentee says, prior to the time when Mr. Aghnides began working on the subject-matter here involved, with respect to plain drinking water and air bubbles. Will you read that portion?

A. Yes. It says: "When plain drinking water is aerated the visible air bubbles soon disappear, although if the aerated water is examined under a powerful lens the air is seen in suspension for some time afterwards."

Q. I am going to ask you now, from that statement, do you understand that the air and water are mixed?

A. Yes, sir.

Q. Do you likewise understand from that phrase that the air within the water assumes bubbles within the water?

A. Yes, I do.

Q. And is it a fact that when air and water, the air being in bubbles mixed with the water, is discharged from a spout or spigot that it will come out in a whitish or greyish form?

A. That's true.

Q. Is that because of entrapment or entrainment of air bubbles within the water?

A. Yes.

(Tr. 787):

Q. Now, if you were putting the Battersby device on a drinking tap for tap water or plain drinking water and you found too much splashing, or water coming out in a stream that was violent, and you wanted to iron out, using your words, any turbulence, what would you do?

A. Put an anti-splash device at the end.

Q. Might you put one on of the kind on tap water, where you don't necessarily want to mix up soda and water, as is true in a soda fountain?

A. Yes.

Q. Could you then take what was known in the art long prior to any of the activities of Mr. Aghnides and put it on the lower end of the device which has been marked "n" in the drawings, Figure 2?

A. Yes.

Q. If you put a Purser device, which is patent number 7 in the binder, on the lower end—Purser said that his device relates to splash-preventers for domestic and other types, and, following the Battersby patent, where he says when plain drinking water is used, could you use a Purser device on the lower end of Battersby?

A. All it has to do is be attached at the lower end, like Purser says, to eliminate—it's a splash-preventer for domestic and other taps, and you could put it at the

(Tr. 788):

end of any device through which liquid is flowing, particularly in a kitchen.

Q. Might we assume that the device shown in the Battersby drawing as an anti-splash device, which is referred to by the reference numeral "t," is used in connection with water being dispensed at a soda fountain?

A. I don't follow you.

Mr. Freeman: Would you read that question?

(Pending question read by the reporter.)

The Witness: Yes.

Q. (By Mr. Freeman): And if you wanted to have plain water, as taught by Battersby, would you not then put on an anti-splash device of the well-known kind used in connection with tap water faucets?

A. That is true; I would.

Q. In addition to the Purser patent, which has to do with an anti-splash device, I am calling your attention to a patent to Vielliard, and will ask you to quickly—

The Court: Is that in evidence?

Mr. Freeman: It is not in evidence yet.

The Court: Is it one of the patents pleaded?

Mr. Freeman: It is a patent that is pleaded, Your Honor.

The Court: Why is it that you didn't put it in evi-
(Tr. 789):
dence?

Mr. Freeman: Because I didn't think we were going to get into a difference—I wanted to cut down the record as much as possible.

The Court: Go ahead, then.

Q. (By Mr. Freeman): Will you describe Figure 1 quickly?

The Court: Do you want to offer that as an exhibit?

Mr. Freeman: Yes. It will be 44-12.

(The patent referred to was received in evidence as Defendant's Exhibit 44-12.)

A. This Vielliard patent is an anti-splash device, and it's supposed to be mounted at the outlet end of a faucet, and it consists of a casing having what appears to be a constricted inlet end at the upper end that does not have a reference numeral, and it has, I believe the specification states, one or more dividing plates or screens. Could I just check the specification in that regard? It says "one or more metal sheets or plates dd which are forced into the device." I am reading from the specification, page 2, lines 32 to 34. And then, below those metal sheets or plates, there is a constricted outlet bi; and, if I might just mention, the first paragraph refers to the invention as—may I read: "This invention relates to a small ap-

(Tr. 790):

pliance which I term a 'jet-breaker' and which may be adapted to cocks or nozzles for the flow of water or other liquids, for the purpose of regulating the flow and more particularly for preventing the liquid from splashing."

Q. Do you understand from the disclosure there that you have a restricted outlet, or contracted outlet, and directly above the contracted outlet you have one or more either screens or plates—I'm not sure which the patent states—for bringing about a stream that is of the non-splash type?

A. Correct.

Q. Now, Mr. Lettvin, it was brought out that the Felten patent, with its widening-effect mixing chamber, is of the Venturi Principle?

A. Correct.

Q. Is it correct to state that the Aghnides device is of the Venturi Principle—and I am referring now to the first patent of Aghnides?

A. That's correct.

Q. And where do you find any reference to the Aghnides device employing a Venturi Tube Principle?

A. Well, both in the specification and in the file wrapper. In the printed patent, on page 1, column 1, lines 13 to 16, he states: "Proper openings are provided leading into the chamber from the outside air so that the flow of

(Tr. 791):

water will draw air into the chamber according to the well-known Venturi principle."

Q. And do you likewise find reference to the Aghnides device being of the Venturi principle in the file wrapper, Plaintiff's Exhibit 16—and I call your attention to pages 54 and 55 and ask you to read, making it as short as possible?

A. There are a number of occurrences where this appears in the file wrapper.

Q. I am going to limit you to those two pages, because the file wrapper is in evidence and we can refer to it, if we wish, in our argument.

The Court: I was just wondering what advantage it is to have it read by him. You can mention it in your brief.

A. (Reading): "Applicant's device is in combination with the Venturi Tube principle." At page 55 it says, beginning in the middle of a sentence. " . . . applicant's device embodies structural requirements of the Venturi Tube principle . . . "—and that ends in the middle of a sentence, too."

Mr. Freeman: That's all.

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(Tr. 792):

ELIE P. AGHNIDES, called as an adverse witness by the defendant, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

By Mr. Freeman:

Q. Mr. Aghnides, can we agree that Figure 6 of your first patent—and pay no attention to my notes on it—is the form closest to the device charged to infringe?

A. Yes.

Q. And that form includes projections extending inwardly from the wall of the casing?

A. Yes.

Q. And I take it that the term "projections" can mean either a continuous inturned shoulder or a plurality of devices or shoulders extending from the wall?

A. Well, it's what is shown in the drawing.

Q. Well, in the drawing is shown a continuous shoulder; correct?

A. Yes.

Q. And the term used for describing that continuous (Tr. 793):
shoulder is the word "projections;" correct?

A. Yes.

Q. Might the device which has the inturned portion of Figure 6 be made of a plurality of shoulders or projections; in other words, not continuous, is what I am seeking?

A. Figure 6 shows two shoulder's; in other words, it corresponds to two projections.

Q. Well, the sectional view shows the two shoulders. Actually, those shoulders extend inwardly all around the annulus of the inner wall of the casing; is that not correct?

A. I am afraid I don't understand your question. We see the inner wall—

The Court: Does the shoulder go all the way around?

The Witness: The shoulder goes all the way around, yes.

Q. (By Mr. Freeman): So that it is a continuous shoulder?

A. Continuous, yes.

Q. Now the term used in the patent specification is "projections"?

A. If it says "projections," that must be the term used. I don't remember by heart.
(Tr. 794):

Q. That is on page 2, column 1, line 73.

A. Yes, "extending projections."

Q. And I now ask you if that might not be a plurality, or one or more, of spaced inwardly extending projections or shoulders.

A. Could be.

Q. Can we agree that the disclosure corresponding to Figure 6, where you have inwardly projecting projections from a shoulder—and I'm not raising any question about terminology—that Figure 6 is shown for the first time in your United States application filed on December 31, 1937?

A. Figure 6 as is shown there, correct, in that form.

Q. And it was not shown in the original application that you filed in the United States on December 4, 1935?

A. The figure as is there was not shown, but my Belgian application, on which the American application was based, stated that baffles are in the path of the water, or screens; so these are baffles.

Q. Will you agree with me that the Belgian patent did not show any counterpart or any figure corresponding to Figure 6?

A. Not exactly to Figure 6, no, but it explained that it could strike plain surfaces, which is baffles.

(Tr. 795):

Q. Can we also agree that the British patent number 468,687, Defendant's Exhibit 14, does not show any figure corresponding to Figure 6?

A. No, it does not show; those drawings do not show a figure corresponding to Figure 6 of my U. S. patent.

Q. And is it not true that the Belgian patent does not show any figure corresponding to Figure 6?

A. No, but the specification states, though, it could be baffles, and shows the preferred form of resistance, which is screens.

Q. And the term "baffles," as used in the Belgian patent, was directed to a pair of screen members at the lower end of Figure 1, referred to by the reference numeral 9; correct?

A. No, I think the specification says baffles—

Q. Or sieves?

A. Or sieves.

Q. Baffles and sieves are the same?

A. No.

Q. They are different?

A. They could be different, yes.

Q. Are baffles and sieves and projections the same?

A. They might be equivalent.

Q. They might be the equivalent?

(Tr. 796):

A. They might be the equivalent.

Q. But we can agree that there are no drawings in your British patent, as well as your Belgian patent, showing inwardly extending projections or shoulders as we find in Figure 6 of your U. S. patent?

Mr. Adams: Which British patent?

Mr. Freeman: The British patent that has to do with the structure here involved. It is number—

Mr. Adams: 468,687?

Mr. Freeman: That's right.

A. I would, however, say that in Figure 5 of this British patent here, which is, I believe, the same as the corresponding figure of the Belgian application, we see that the orifice through which the water comes out the perforated plate 5 is above the shoulder, so the water might very well strike before getting to the screens and be party broken up.

Q. Now do you find in Figure 5 a structure corresponding to projections that extend inwardly from the walls of the mixing chamber, or the tube which forms the mixing chamber?

A. Yes, I find there walls projecting inwardly, above which are some orifices in the perforated disc 5.

Q. Will you state now that you rely on Figure 5 of (Tr. 797):
either your British patent or your Belgian patent as a basis for the disclosure of Figure 6 in our patent number 2,2_0,846, filed December 31, 1937?

Mr. Adams: May I ask what you mean by "rely"? Do you mean as a matter of law, or the immediate disclosure; which are you talking about?

Mr. Freeman: The immediate disclosure. I'm not trying to get into any law questions with Mr. Aghnides.

A. Well, that Figure 6 is in accordance with the disclosure made in my Belgian patent, which is speaking of baffles and which also shows in Figure 5 a stream which could strike first an inclined surface before reaching the screens. It is not an exact duplicate, but according to the same principles.

Q. In other words, for the purpose of establishing Figure 6, which has an inwardly extending shoulder or projections, Figure 5 is the closest, or at least approximates in structure and function, that which is called for in Figure 6?

A. It is the same idea, yes.

Q. And do you find in the Belgian or British patent any directing means for directing the jets and water outwardly or at an angle against the wall of the casing and against the shoulders?
(Tr. 798):

A. I do not find that, but I have the walls below the orifice.

The Court: Didn't you go over all of that on your cross-examination previously?

Mr. Freeman: Not this, no, sir. Your Honor, I am just laying a foundation. I don't want to explain it, but I am trying—

The Court: I'm not asking for an explanation, but doesn't that page there (indicating page of record) cover the very identical thing you are going over now?

Mr. Freeman: In a measure, yes, Your Honor.

The Court: Avoid doing that as far as possible.

Mr. Freeman: I will do that, Your Honor.

The Court: Go ahead, then, with your examination.

Mr. Freeman: I think I can shorten it.

The Court: I don't want to cut you off, but I just don't want any duplication of the record.

Q. (By Mr. Freeman): In Figure 6, in the particular form which you say is closest to the defendant, that specific form we first find in your United States patent in suit, your first patent?

The Court: He's already said that.

Q. And that application was filed more than twelve months after the filing of your British patent; correct? (Tr. 799):

A. I didn't figure it, but the dates are there.

Q. December 8, 1934; December 31, 1937?

A. Yes.

Q. That is more than twelve months?

A. Yes. The difference—

Q. And will you agree with me that your British patent issued prior to the filing date of your United States patent 2,210,846?

A. Yes, sir. While we find in Figure 6 the streams directed laterally to strike the extending shoulders, in Figure 5 we find those shoulders brought below the stream, which is equivalent, and the specification says that the streamlets may strike baffles or screens or sieves.

Q. Just one additional question. Turing to the British patent, do you find there disclosed the idea of the use in an aerator of projections that extend inwardly from the wall of the casing?

A. Are you referring to this paragraph between lines 27 and 40?

Q. That is one paragraph. I don't want to limit you, nor do I want to direct you to any particular portion of the patent.

A. Because you showed me—

Q. Well, in order to save time; but you are not limited (Tr. 800):

to that. Use anything you want out of the patent.

A. It says "It is proposed to provide a liquid aerating device comprising a tubular member having a lower hollow part and a relatively solid upper part in which are arranged liquid passages alternating with short passages communicating with atmosphere at the sides of the device, whilst the lowest hollow part supported a number of pegs below and transverse to the liquid passages."

Q. Are you through, Mr. Aghnides?

A. Yes. Well, this reference probably is relating to the Solomon device.

Q. But, in so far as your patent is concerned, the British patent discloses in an aerating device projections in the form of pegs that come inwardly—

A. Those pegs come inwardly.

Q. (Continuing)—from the wall of the housing, against which liquid passes and impinges; is that correct?

A. Well, we know the structure of the Solomon patent, only the Solomon patent may be for aerating water, but it is not for producing a bubbly stream.

Q. No, I am just asking you if there is a disclosure in your British patent number 468,687 that has to do with projections against which the water impinges in its flow (Tr. 801):

from the time that it enters the device until its exit from the device?

A. Before its exit it strikes—there are pegs in the path of the water, jets of water, and the jets of water strike those pegs, yes.

Q. And that is within a mixing chamber?

A. Within a chamber, in the way Solomon intends to mix.

Q. I am not asking about Solomon. I am asking you if your patent discloses the idea of projections going inwardly from the wall against which the water strikes and impinges.

A. Yes, a device that has a different mode of operation, and they operate differently.

Mr. Freeman: That's all, Your Honor.

(Tr. 803):

ELIE P. AGHNIDES being recalled, testified further as follows:

DIRECT EXAMINATION

(Tr. 804):

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Q. (By Mr. Adams): It is a fact, is it not, Mr. Aghnides, that the Chicago Faucet Company has been a licensee of yours under the first patent in suit and the second patent in suit for some years?

A. Yes.

Q. Do you remember when that license was entered into?

A. Yes; December 2, 1937.

Mr. Adams: I may mention that this device Mr. Freeman took the depositions about was created, but not marketed, sometime in 1938.

Q. Now will you develop for me the circumstances of entering into that license? When did you first come to this country?

A. In 1937, in June; and tried for many months to find a suitable manufacturer to make aerators under my patents and, after approaching several firms, I approached the Chicago Faucet Company and, after a few days talking and demonstrating and explaining, we had an agree-
(Tr. 805):
ment signed on December 2, 1937.

Q. Prior to that time had your devices been manufactured abroad?

A. Rubber-made ones.

Q. Did you bring a sample of that with you?

A. I did.

Mr. Adams: I have here a device which I would like to have marked for identification, which is our Exhibit No. 65. I show it to you, Mr. Aghnides, and ask you whether you can tell me what it is.

A. This is a water aerator made by my French licensees. The French license was granted in 1936, and then I came to this country in 1937 and I brought this with me, and this device contains, this aerator made by my French licensee in 1937, or earlier, contains a restricted orifice, which is obtained by means of a metal tube inserted a little above the diaphragm, which gives the jets of high velocity.

The Court: Are you going to offer that?

Mr. Adams: Yes, sir, I will offer it.

(The aerator referred to was received in evidence as Plaintiff's Exhibit 65.)

Q. (By Mr. Adams): Does that aerator embody the means of both your first patent and your second patent?

(Tr. 806):

A. It did.

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(Tr. 807):

Q. I show you a letter document, dated October 17, 1936, and ask you to identify it.

A. May I complete the name I was giving to Mr. Jewett (the reporter)? "Establissments Pierre P. Zecchini, Paris."

Now this is the agreement entered into with said company October 17, 1936, and this company made the aerator I produced at the time.

The Court: Plaintiff's Exhibit 65?

The Witness: Yes, sir.

Mr. Adams: I offer this agreement as Plaintiff's Exhibit 66.

The Court: Do you have an English translation there?

Mr. Adams: I think we have the English translation, which we might attach to it and mark 66-A, if Mr. Aghnides will vouch for the translation, subject to correction.

(Tr. 808):

The Court: I think we can take it and check it. I will admit it.

(The letter and translation referred to were received in evidence as Plaintiff's Exhibits 66 and 66-A, respectively.)

Mr. Freeman: I am going to object to it, Your Honor, unless we have in here the subject-matter of the license, and I would like to see the French patents that are here involved. I have no way of knowing—it may be a license for something entirely different.

Q. (By Mr. Adams): What was the subject matter of the patent, Mr. Aghnides?

The Court: It says it is limited "to your French patent applications Nos. 790,556 and 800,069 and to the device represented and described in your patent No. 800,069 Fig. 1."

What about your French patent; is it in evidence here or not?

Mr. Adams: No, Your Honor, we do not have a copy of this application that's referred to.

Q. (By Mr. Adams): It is the equivalent of the Belgian patent and the English patent?

Mr. Freeman: That is objected to as calling for a conclusion, and a legal one at that.

The Witness: And this aerator is made in accordance (Tr. 809):
with that license, which has all the elements of my two patents.

The Court: What have you got to say to his objection? He is objecting because you don't have the patent.

Mr. Adams: All I can say is that we don't have it here, but it does establish this company was licensed by him under something to make this particular device—

Mr. Freeman: If Your Honor please, I can help you, Mr. Adams. If you will agree with me that the French patents referred to in the agreement here, this French agreement, included a restricted orifice at the upper end—

The Witness: No.

Mr. Freeman: Well, that is what you are talking about. You are carrying your date of invention back with respect to the second patent, which has to do with a restricted orifice before the water gets from the faucet into the so-called aerator proper. I will agree with you that the French patents included that particular feature.

Mr. Adams: I just don't know, and it's not important to my presentation whether it's true or not—

Mr. Freeman: Well, it's important to me.

Mr. Adams: All I want to show, Your Honor, is that this company was licensed by him to make his inventions. (Tr. 810):

The Court: You can secure, if necessary, the patent itself, can't you. I will allow you to offer it, and you can supply the original patent, a copy of it. I will give the defendant an exception.

Q. (By Mr. Adams): Did you disclose to this French company a structure to be made by them under license?

A. I did.

Mr. Freeman: Again, Your Honor, I want to shorten this. I want to object to it, that something he disclosed to somebody in France hasn't a thing to do with what we are trying here, taking the date of invention back. The statute says that whatever activity is had in a foreign country is of no avail.

The Court: Let him present his facts, whatever the legal significance is. I am going to let it in and give the defendant an exception.

• • •

(Tr. 838):

CROSS EXAMINATION

• • •

(Tr. 843):

Mr. Freeman: Mr. Aghnides, I am now going to ask you again the question that I last asked: What would happen if you used the anti-splash device of the British patent, Exhibit 44-12, dated in 1899, wherein there is provided one or more screens and a contracted end, and you took off the umbrella-like member t from Battersby and screwed on the device shown in Figure 1, the members á and f?

The Witness: Well, Figure 1—this patent was brought to my attention today—described, I think, many perforated discs—

The Court: You call this a British patent. This is a French patent, isn't it?

Mr. Adams: It's a French inventor and British patent.

The Witness: Well, this shows certain types of non-splash devices. Now we have in the market non-splash devices. It is a fact, a well-known thing, a non-splash device to be added when the ordinary water is splashing, and those non-splash devices have different degrees of resistance, so they are not adapted to be attached to a (Tr. 844):

water aerator which has a certain mode of operation and where, if you added too many of those screens as an anti-splash, the water will squirt out of the lateral holes, as we have seen during the test in this court, and if you put too few the water would still splash, and if you happened to put just the required amount, then you would be superposing two existing inventions to create the Aghnides invention.

* * *

Mr. Freeman: You haven't answered my question. Taking off the umbrella-shaped member t, which is the anti-splash device which spreads out of the Battersby, and substituting therefor a device of the kind shown in the British (Tr. 845):

patent to the Frenchman, I am now asking you whether or not the two screens, one or more screens, together with a contracted end, would not in fact produce a coherent stream of water?

The Witness: It could, and would, depending on the resistance offered by the anti-splash device, but, if it did,

it would change the mode of operation of that device and that device would no more be Battersby if it did. If you just selected a non-splash device which happened, by accident, to fit this Battersby and make it a bubbly stream, then you destroy the mode of operation of this patent and of this device.

Mr. Freeman: Now isn't it a fact that the mode of operation of the device, the Battersby device, is the same whether or not you have an anti-splash device on the bottom, in so far as the Battersby patent is concerned?

The Witness: Are you talking of the anti-splash device Battersby devised for his patent?

Mr. Freeman: I said if you removed the Battersby anti-splash device t, would there be anything different than a jet of water coming through the opening m, sucking in air through the openings j, the water moving downward, striking the contracted neck or shoulders or the inturned portion n, and then striking the pin or plug or peg u, and (Tr. 846):

then going out to atmosphere.

The Witness: Well, I think it would be quite a splashing and dispersion, as it is if you remove this (indicating).

Mr. Freeman: And when you say "remove this," you are now removing t, that is, the letter "t", you said would bring about a device that would suck in some air, a single jet would go down and strike a peg or projection and then go out in an incoherent stream; correct?

The Witness: That's right.

Mr. Freeman: Now I am asking you what would happen if you took the British patent of 1869, Defendant's Exhibit 44-12, and put that on the bottom of the Battersby device. Would you not then have the water passing through the one or more screens and being contracted so as to come out in a well-defined column?

The Witness: Not necessarily. It depends on the resistance offered by that device.

Mr. Freeman: Is that the only difference, then, that it would depend on resistance?

The Witness: You have to proportion in order to obtain what you want; in other words, to transform the dispersed Battersby stream into a coherent Aghnides stream.

• • •

(Tr. 847):

Mr. Freeman: Now what do you understand from the patent that you are holding in your hand, Defendant's Exhibit 44-12, is meant by the terminology, one or more screens or plates?

The Witness: I understand that these devices called anti-splash, being created for the ordinary water faucet, it would not matter whether you put one or ten or twenty screens.

Mr. Freeman: It wouldn't make any difference?

The Witness: On the ordinary water.

Mr. Freeman: With aerated water?

The Witness: Well, with aerated water it would make a great deal of difference.

(Tr. 848):

Mr. Freeman: I am talking about the use of Battersby by hooking on the bottom of Battersby the British patent, Defendant's Exhibit 44-12, the one you have in your hand.

The Witness: Well, I answered that by saying it depends how much resistance these non-splash devices have. I don't know. It may happen to work; it may happen not to work.

Mr. Freeman: If you used one perforated metal sheet and it didn't work, might you use two?

The Witness: What kind of metal disc are you talking about? I don't know. I have to experiment and see.

Mr. Freeman: You would have to experiment and see?

The Witness: Yes, sir.

Mr. Freeman: Now, in your case, the demonstrations you made, we experimented by using one or more screens until we got the right resistance?

The Witness: Exactly.

Mr. Freeman: And doesn't the British patent teach you to use one or more perforated metal sheets?

The Witness: Yes, but that's not when there's air involved. We can demonstrate very easily in this court and show that a device which is anti-splash for water coming out of a faucet, if it's put at the end of a device called (Tr. 849):

an aerator, it won't work. It may work, but it may not work. As we shall demonstrate in example, it doesn't work, a perfect non-splash device you have taken off the tap on a faucet, where it's non-splash, and attached to the outlet end of a sharp aerated flow, it may not work at all.

The Court: Well, I don't know whether I understand the question myself or not, but, if I do, I don't believe that your answer covers the question Mr. Freeman has asked you. Now I understand the question to mean this: that if you will take off that last attachment right there on Battersby and, in lieu of it, put on it the attachment described in the British patent—

The Witness: Yes. My answer, Your Honor, was—

The Court: (Continuing)—would that not produce a coherent stream of aerated water.

The Witness: My answer was it may or may not, depending on the resistance offered by that anti-splash device.

• • •

(Tr. 862):

Q. Now the device we have here which I understand you brought into this country, which is Exhibit 65, that has a metal ring on the inside; correct?

A. Yes.

Q. When was this brought into the United States?

(Tr. 863):

A. I brought it in 1937.

Q. When in 1937?

A. Oh, I came in June, and I don't know whether some were sent to me as samples, because I had brought some with me and I don't remember whether some more were sent to me from the Zecchini Company, and I demonstrated this and have shown to the Chicago Faucet Company and the Acushnet, who designed upon that.

Q. Did you show it to anyone else?

A. I suppose I did. I don't remember.

Q. Did you use it in your room in hotels in this country, going from place to place?

A. Only for demonstration.

Q. You used it for demonstration?

A. Yes.

Q. How many people did you demonstrate it to?

A. I don't remember.

Q. A dozen or more?

A. Maybe a dozen; I don't know.

Q. And you demonstrated it as a device that was of a commercial character in France?

A. That was the type of aerator made in France and had to be redesigned in this country.

Q. I didn't ask you if it had to be redesigned. I

(Tr. 864):

asked you if you were demonstrating the physical commercial device that was made in France that you brought into this country in 1937.

A. Those were the samples made. I don't believe they were yet in the French market, but I'm not sure about it.

Q. Does that differ from what actually went on the French market?

A. Later on? No, it is not; it is the same.

Q. When you brought it over, all the representations made to the Chicago Faucet Company or the Acushnet people or anybody you demonstrated it to were as a device which was being manufactured by your licensees in France?

A. Yes, I told them it was being made by my French licensees.

Q. And the demonstrations were made by you?

A. I showed it to them.

Q. And the demonstrations were made by a faucet that was turned on and off?

A. Yes.

Q. That was in 1937; you are sure of that?

A. Oh, definitely.

• • •

(Tr. 867):

Q. Now I am going to ask you when did you first disclose to anyone in this country the idea of a restricted orifice added to the aerator of your first patent?

A. To my licensees, the Chicago Faucet Company, in the beginning of December, because our agreement was signed December 2nd—it might have been the end of November—and to the Acushnet Process Company, with whom the contract was concluded sometime in the fall of 1937.

Q. And the disclosure then was, as I understand it, a type of device corresponding to your French licensee's

(Tr. 868):

manufactured device?

A. Yes, the whole disclosure about everything regarding my invention.

Q. Now, Mr. Aghnides, isn't it a fact that the two French patents that are referred to in your license to your French licensee, that one has to do with the so-called adaptor of your early U. S. patent number 2,071,780?

A. I believe so, yes.

Q. And the latter one, which is number 800,069, is the French patent corresponding to either your British patent or your Belgian patent which we have heretofore talked about?

A. Yes.

Q. And do you find in the French patent any restricted orifice?

A. No. That is my first patent.

Q. Well, this is the one that's referred to, one of the two that's referred to, in the French license agreement that you introduced this morning?

A. That's right.

Q. And can we agree that the other patent referred to in your French license agreement is directed to an adaptor for an aerator or some such device?

A. The tap-connector patent, yes.

(Tr. 869):

Q. Does that show, if you recall, a restricted orifice?

A. No, it does not.

Q. Then, in so far as the license agreement, it had nothing to do with the invention we are now talking about directed to a restricted orifice upstream of the aerator?

A. No, except that I gave the specifications and the drawing, as you see, and they had to put it in and they put it in.

Mr. Adams: The agreement was put in merely to establish the date, not to establish what the French licensee made.

Mr. Freeman: Then you are conceding that neither of these two patents have any disclosure with respect to the restricted orifice?

Mr. Adams: That is my belief, and the witness has so stated, I believe.

The Witness: That's right.

* * *

(Dep. 1):

IN THE UNITED STATES DISTRICT COURT

* * (Caption—Civil Action No. 857-G) * *

The deposition of Earl E. Brown, Henry A. Theed, Denis P. Ganey and Alfred F. Strang, taken by the defendant in the above entitled case before S. Anita Man, Notary Public of Cook County, Illinois, on the 24th day of August, 1955, at the offices of Bair, Freeman and Molinare, 135 South LaSalle Street, Chicago, Illinois, pursuant to notice hereto annexed.

* * *

(Dep. 3):

EARL E. BROWN, called as a witness by the defendant, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By Mr. Freeman:

Q. Will you please state your name?

A. Earl E. Brown.

Q. And where do you reside?

A. 600 North Prospect Avenue, Park Ridge, Illinois.

Q. And your business?

A. I am president of the Chicago Faucet Company.

Q. Going back to about 1937 or 1938, what was your business then?

A. The same, only I was not president.

Q. What was your official connection with the company at that time?

A. Secretary.

Q. How long have you been with the Chicago Faucet Company?

A. Forty-five years.

• • •

(Dep. 7):

Q. I hand you a photostat, page 21 of Domestic Engineering, a publication dated March, 1938, and will ask you if there is there shown the adapter and Softflo aerator about which you have heretofore testified.

A. There is.

Q. Your company, I take it, advertised in Domestic

(Dep. 8):

Engineering?

A. Yes, sir.

Q. You recall that, in addition to the fact that you are seeing the paper that I just handed you?

A. Oh, yes.

Q. I mean, you independently recollect it?

A. Oh, yes.

Q. And what was the purpose of taking an ad in Domestic Engineering, the one that you have in your hand?

A. To tell the trade, that is, the plumbing trade, this new development; what it was and what it did; try to popularize it with the plumber.

Q. Was it for the purpose of trying to sell these units?

A. Yes.

Q. In other words, the advertising for the normal purpose of creating a demand?

A. Yes.

Q. And I take it that was an ad that your company paid for?

A. Yes, sir.

Mr. Freeman: I am going to offer a photostatic copy of page 21 of Domestic Engineering of March, 1938, as (Dep. 9):

Defendant's Exhibit 19, and I understand from both Messrs. Hamilton and Reddy that there is no objection to the use of the photostat.

Mr. Reddy: That is being marked in the deposition for identification?

Mr. Freeman: I am offering it as a part of the deposition. It will have to be re-offered when the deposition is read. If you have any objection you will have to make it now.

Mr. Reddy: No.

(The document above referred to was marked Defendant's Exhibit No. 19 and offered in evidence.)

• • •

(Dep. 17):

By Mr. Freeman:

Q. Prior to the time that you entered into your negotiations with Aghnides, I understood you to say that your company made a faucet that had an internal thread, sometimes referred to as a female thread, at the lower end.

A. That is correct.

Q. What were the threads then used for prior to your association in any fashion with Mr. Aghnides?

A. We screwed into that thread a device known as a Quixtop, which was a name which we registered.

Q. And what was the purpose of your trade-mark Quixtop—is that the word you used?

A. Yes.

Q. —device?

A. The purpose was to cut off the drip that followed the closure of the faucet unit and also to solidify the (Dep. 18):
stream, thereby delivering a better flow of water.

Q. Did that Quixtop device include a screen that went across the entire area of the faucet at the lower end?

A. Well, I don't want to be technical, but it went across the opening in the Quixtop device. It wasn't quite as large as the opening in the spout.

Q. Fine. I didn't mean to be technical, either, but I was trying to merely get a word picture of your device.

A. Yes.

Q. And then do I understand,—you have already said that there were screw threads at the lower end of the faucet.

A. Yes.

Q. Into which a Quixtop device was screwed into?

A. Yes, sir.

Q. And that Quixtop device included a screen through which the water from the faucet had to pass before it could get into the kitchen sink.

A. That is correct.

Q. And the Quixtop device then, I take it, included a screen and some band member which had the screw (Dep. 19):
threads fixed to it which coacted or screwed into the faucet.

A. Now you are talking like a lawyer.

Q. I am trying to talk so that the Judge will understand it.

A. Well—

Q. The Quixtop device had an opening in it, is that correct?

A. Yes.

Q. And that opening had a screen extending across it?

A. Yes.

Q. And the Quixtop device then had its opening of less diameter than the faucet above it?

A. That is right.

Q. Now, when you made your adapter that is part of your Softflo unit, did you continue with your drip check, as I call it, or Quixtop device?

A. If I understand your question correctly, we continued the use of a screen in the inlet end of the adapter. Or do you mean when we didn't use the Softflo did we use the Quixtop? I am not sure of your question.

Q. No. What I meant is, when you started using your Softflo along with your faucet, did you then still hang on (Dep. 20):

to or keep the benefits that you got from your Quixtop device?

A. We still continued to use the screen.

Q. And where was that screen located in the adapter?

A. Well, substantially at the top.

Q. And did you provide an extension or a shoulder on the inside of the adapter so that the screen wouldn't push clear through?

A. Yes.

Q. And that shoulder then formed an opening in the adapter of less diameter than the diameter of the faucet itself, is that correct?

A. Correct.

Q. And that opening likewise was of less diameter than the diameter of the aerator itself?

A. Yes.

Q. The aerator was, using the expression, more closely related to the diameter of the faucet than the opening of the adapter?

A. That is correct.

Mr. Hamilton: Will you please read that question?

(Record read.)

The Witness: I answered that understanding that you
(Dep. 21):
meant the diameter of the spout outlet of the faucet. I think you said the faucet.

Mr. Freeman: Yes, of the spout outlet of the faucet.

Off the record.

(Discussion off the record.)

By Mr. Freeman:

Q. As illustrative of the adapter of the kind shown in the March, 1938, issue of Domestic Engineering, Defendant's Exhibit 19, I hand you a drawing which is now in a large bound volume which your company produced, and ask you if the adapter, under which is marked "Present," and colored green, represents the adapter of the kind first used by your company.

A. To the best of my recollection, it is.

Q. And I take it that the initials A. C. Brown are recognized by you as that of your father?

A. That is right.

Q. And the books that you have produced are the books kept by your company in the regular course of its business?

A. That is correct.

Q. And are the books of the kind that you rely on in the operation of your business?
(Dep. 22):

A. Yes, sir.

Q. Now, I note on the upper portion of the green adapter a sort of curlicue or wavy line, and I will ask you if that represents the screen of your so-called Quixtop device, is that illustrative of it?

A. Whether it is the exact screen of the Quixtop, I am not sure, but it certainly is similar, close to it.

Q. Perhaps I should ask the question, within the adapter of the device, as illustrated in the March, 1938, issue of Domestic Engineering, there was a screen at the upper end.

A. Yes, sir.

Q. And that screen was in the enlarged, or in an enlarged opening of the adapter, enlarged as distinguished from the throat or restriction that we find in the middle of the adapter, is that correct?

A. Yes, it was.

Q. And is that the way your company began the actual sale of its Softflo aerator; that is, including an adapter with a screen at the upper end thereof?

A. Yes, sir.

Q. Now, what is your best recollection as to when your company actually began the sales of these devices which (Dep. 23):
we have referred to as the Softflo aerator and the adapter therefor?

A. Well, I should say early in 1938.

Q. These ads that we have referred to, let's take the March, 1938, ad, by the time that ad appeared in the paper or in the publication, had your company actually manufactured aerators of the Softflo type?

A. Undoubtedly we had.

Q. Did your company use any of them in your plant for experimental purposes or for illustrative purposes to determine their operative characteristics before you put your ad in the publication?

A. I seem to recall that we tried some at home; that is, my father at his house and I in mine.

Q. And do you recall whether or not any of them were used in the plant, in your own plant; I mean, in the wash basins?

A. I know what you mean. I don't believe so.

Q. Now, your sales records, I understand, going back to 1937 and 1938, have since been destroyed.

A. Yes, sir.

Q. Or are now not available.

A. Yes, sir.

Q. And I take it a good bit of those papers were (Dep. 24):

disposed of during the paper drive when we had our late war.

A. Yes, sir.

Q. But your engineering records of the kind that we have here, these records, were preserved?

A. Yes, sir.

* * *

I am going to offer the drawing of the Chicago Faucet Company, which is colored, illustrating a cross section of an aerator and an adapter which was referred to by the witness, bearing the pen and ink initials A. C. B., and for the purposes of the record, the witness merely identified (Dep. 25):

the device shown on the lefthand side, having the word "Present," there below.

Mr. Hamilton: Are you offering this?

Mr. Freeman: Yes, as Defendant's Exhibit 25.

(The document above referred to was marked Defendant's Exhibit No. 25 and offered in evidence.)

(Discussion off the record.)

Mr. Freeman: By consent of counsel, in view of the fact that the drawing just offered in evidence as Defendant's Exhibit 25 is a permanent record of the Chicago Faucet Company, and being in color, they agree that a duplicate thereof may be made and colored corresponding as closely as possible to the original.

That is all from Mr. Brown.

* * *

(Dep. 32):

REDIRECT EXAMINATION

By Mr. Freeman:

Q. After you took your license or made your agreement with Aghnides in December of 1937, you began paying him a monthly minimum royalty, starting with January of 1938, of some $80 or $83 a month, is that correct?

A. I believe that is correct, yes, sir.

Q. And I take it that you made reports to Mr. Aghnides from time to time as to the number of units sold and made the royalty payments as were due to Mr. Aghnides?

(Dep. 33):

A. I am sure we did.

Q. You used the term in connection with your Quixtop device that it solidified the stream. Can you describe that a little more? What do you mean by it solidified the stream?

A. Concentrated it into a solid column.

Q. Made it more coherent?

A. Yes. Without something of that kind you might have a little throwoff to the side.

Q. In other words, then, for some distance after the water left the faucet with the Quixtop device on, the water remained in a uniform column as distinguished from spreading out and splattering around, is that correct?

A. Yes.

Mr. Freeman: Off the record.

(Discussion off the record.)

Mr. Freeman: It is agreed by counsel for the respective parties that a page from the general ledger of the Chicago Faucet Company, which ledger is in loose leaf form, may be offered in evidence as Defendant's Exhibit No. 26, the page being entitled, "Aghnides Royalties," and has to do with the year 1938.

(Dep. 34):

(The document above referred to was marked Defendant's Exhibit No. 26 and offered in evidence.)

• • •

(Dep. 84):

ALFRED F. STRANG was called as a witness by the defendant, and having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By Mr. Freeman:

Q. Will you please state your name

A. Alfred F. Strang.

Q. And your residence?

A. 123 Fairview Avenue, Park Ridge, Illinois.

Q. By whom are you employed?

A. Chicago Faucet Company.

Q. And how long have you been with the company?

A. Thirty years.

Q. What is your present capacity with the company?

A. Purchasing.

Q. What was your capacity with the company in 1937 and 1938?

A. Purchasing and production. Still purchasing and production.

Q. How long have you been in purchasing, Mr. Strang?

A. Since 1934.

(Dep. 85):

Q. Are you familiar with the device that has been referred to as Softflo?

A. Yes, sir.

Q. And you know that to be an aerator?

A. Yes, sir.

Q. And you know it to be attached to the end of a faucet by means of an adapter?

A. Yes.

Q. Can you read drawings; I mean, do you understand drawings?

A. I am not an engineer, but I have a lot to do with drawings in my work.

Q. And as purchasing, or as we sometimes call them, purchasing agent, it was your duty with the company to purchase outside parts used by Chicago Faucet Company?

A. Yes, sir.

Q. Are those parts purchased in accordance with part numbers as illustrated on drawings?

A. They are.

Q. Did you you have anything to do with the purchase of parts for the Softflo aerator?

A. Yes, I did.

Q. And were they purchased by use of a drawing illustrating a particular part number?

(Dep. 86):

A. They were.

Q. Now, I have a drawing here that make reference to a part number, 1-123.

A. Yes, sir.

Q. Would you have any record showing when that particular part number was first purchased for the Softflo aerator?

A. Yes, sir.

Q. Will you turn to that record and give me the date of the first purchase, and I might add, for the purpose of the record, the witness has in his lap a large book, loose leaf in form, including a large number of sheets, appearing to be records from the Chicago Faucet Company,

which has been produced in response to subpoena directed to the officers of the Chicago Faucet Company.

Now you can proceed with your answer.

A. On February 15, 1938, we received the first of the 1-123 screens, 1,020 of them. That is the invoice date. We had them probably one day before or maybe after.

Q. In other words, during the month of February you had part No. 123 for the Softflo aerator?

(Dep. 87):

A. Yes, sir.

Q. And can you tell me the name of the company that you bought that from; does that appear on the record that you have here produced?

A. Quadriga Manufacturing Company. Do you want their address?

Q. Yes.

A. 213 West Grand Avenue.

Q. In Chicago?

A. Yes, sir.

Q. And I note above the name Quadriga you have 2-15-38, and I am going to ask in whose handwriting is that date?

A. That I do not know.

Q. But the record is kept under your supervision?

A. Yes, sir.

Q. And what does the 1-123 mean?

A. It is the number that is assigned to the part by the engineering department.

Q. And under the heading "Vendor" on the blank that you have, or the form, appears the figure 1020. What does that indicate to you?

A. Well, that indicates the number of pieces we have received, but if you will note the vendor's name is not under the column.

(Dep. 88):

Q. The vendor's name is under the date column?

A. That is right.

Q. Was it your custom to put the date of the invoice, when you knew it, under the date, along with the vendor's name?

A. Yes, it was.

Q. Does the $8.00 per M, which appears under the column "Quantity," indicate the price per thousand?

A. That is right.

Q. And the total invoice was $8.16 for the part No. 123?

A. That is right.

Q. What was part No. 124?

A. That is another screen that was used in the lower part of the aerator.

Q. And that too, I take it, was purchased from Quadriga?

A. Yes, sir.

Q. And under what date did that come into your plant?

A. The invoice date is February 15, 1938.

Q. And the quantity?

(Dep. 89):

A. 1,070.

Q. And again the price is $8.00 per thousand, is that correct?

A. Yes, sir.

Q. I note also that there appears part No. 1-125. What was that part?

A. That was also a disc. That was made out of perforated brass sheet. I think we designated it as a disc with many holes as opposed to a disc with few holes. That was added later.

Q. Now I note on the drawing which has been offered as Defendant's Exhibit 31, part No. 123. Does that appear

to be a round object of screen material?

A. Yes, sir.

Q. And that is what is referred to as the product invoiced to your company on February 15, 1938, by Quadriga Company?

A. Yes, sir.

Q. I note also another screen-like member also circular in outline, as part No. 124. That likewise was made by Quadriga?

A. Yes, sir.

Q. And likewise invoiced to your company on February 15th?

(Dep. 90):

A. Yes, sir.

Q. 1938?

A. Yes, sir.

Q. And I notice also on Defendant's Exhibit 31 a disc which is marked "Perforated disc," part No. 1-125. Does that have reference to the 1,020 received or invoiced to your company on February 15, 1938?

A. Yes, sir.

Q. Now, I notice part No. 122. Was that purchased by your company from the Johns-Manville Company?

A. Yes, sir.

Q. And that part No. 122 is likewise shown on the drawing, Defendant's Exhibit 31, is that correct?

A. Yes, sir.

Q. I notice that the reference identification to part No. 122 received from Johns-Manville opposite J-M Co., and under "Vendor," 2,000,—that is the second order, is it not, for part No. 122?

A. Yes, sir.

Q. I note on the very top of the page arranged in columns that part No. 122 was ordered from JMC, mean-

ing Johns-Manville Company; that the quantity was 1,000, and the price was $3.00 per thousand, is that correct?

A. That is right.

(Dep. 91):

Q. Was the entry as to the purchase of Part No. 122 made before or after February 15, 1938?

A. It was received before. That is why it is entered before this entry here. Whoever made this entry neglected to put down the date. I might mention these two entries are my own.

Q. Oh, that is your own handwriting?

A. I do make mistakes. These two entries are mine. These are not.

Q. The first entry for the part No. 122 for the Softflo aerator is in your handwriting?

A. Yes, sir.

Q. Now, how about the second entry for part No. 126?

A. That is my handwriting, too.

Q. And who was that purchased from, if you recall?

A. Illinois Coil Spring Company.

Q. And that is illustrated on Defendant's Exhibit No. 25 as part No. 1-126?

A. That is right.

Q. And likewise that part No. 126 referred to as a separator ring part No. 126, is shown on Defendant's Exhibit 27, is that correct?

(Dep. 92):

A. That is right.

Q. I am going to ask you whether or not those parts were received by you; I mean, parts No. 1-126, before or after February 15, 1938?

A. I would say before, because the entry is made before that date.

Q. And is that entry, too, in your handwriting?

A. Yes, sir.

Q. Now, do you know who made the part No. 121, which is the adapter?

A. Well, that was made in our shop. We make parts like that out of brass rod.

Q. How about the making of the body part, 120?

A. The same thing.

Q. So that with the parts that were received or purchased from outside sources, that is, parts 122, 126, 123, 124 and 125, along with those parts that were made by your company, to-wit, part 1-121 and part 1-120, that made up the aerator and adapter, is that correct?

A. Yes, sir, that is correct.

Q. Do you have any recollection of seeing any adapter and aerator in an assembled condition very much as illustrated in Defendant's Exhibit 27; I mean, in an assembled unit, including these parts that were brought into your plant some time in February of 1938?

(Dep. 93):

A. I can't say that I remember them at this time, no. I remember seeing lots of them, but I wouldn't say that was at that time. I don't remember that.

Q. Now, these parts that were ordered, they were for production units, were they not?

A. Yes, sir.

Q. I mean, when you buy a thousand parts, that is not experimental.

A. No, sir.

Q. And when you buy, as here indicated, 1,000 or 1,325, were those parts bought by you for use in connection with the Softflo aerator?

A. Yes, sir.

Q. For saleable units, or units that were to be sold?

A. Well, yes, I would say so.

Q. In other words, I am asking you whether or not the parts that you brought were for production purposes as distinguished from experimental purposes.

A. Yes

Q. For production purposes?

A. Yes, sir.

(Dep. 94):

Mr. Freeman: I would like to offer in evidence a photostatic copy of the purchase date or sheet that has been referred to by the witness as Defendant's Exhibit 32.

(The document above referred to was marked Defendant's Exhibit No. 32 and offered in evidence.)

By Mr. Freeman:

Q. Incidentally, the book that you have here today, which contains the sheet which I have just offered in evidence as Defendant Exhibit 32, is that a current record book?

A. Yes, sir.

Q. It is used right now?

A. Every day.

Q. So that the parts purchased in 1937 or '38 were recorded in a book that you keep similar record in, in a book today?

A. That is right.

Q. The same kind of a book?

A. Yes, sir.

• • •

(Dep. 1):

IN THE UNITED STATES DISTRICT COURT

• • (Caption—Civil Action No. 857-G) • •

Deposition of S. H. Kress & Company, by C. H. Williamson, Assistant Secretary, taken by plaintiff pursuant to order of Hon. Johnson J. Hayes, filed December 1, 1954,

at the offices of Pennie, Edmonds, Morton, Barrows & Taylor, Esqs., 217 Park Avenue, New York, N.Y., on December 6, 1954, at 3:45 p.m., before George Wolf, a notary public of the State of New York.

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(Dep. 2):

C. H. WILLIAMSON, called as a witness by plaintiff, being first duly sworn by the Notary Public, testified as follows:

EXAMINATION BY MR. ELY

Q. Please state your name, age and residence?

A. C. H. Williamson; age 49; residence, 293 Hollywood Avenue, Tuckahoe 7, New York.

Q. And you are with the S. H. Kress & Company?

A. S. H. Kress & Company, yes, sir.

A. S. H. Kress & Company, yes, sir.

Q. What position do you hold?

A. Assistant secretary of the company.

Mr. Ely: Note that this is an adverse witness, if you will, please.

Q. How long have you been with the Kress Company?

A. Twenty-six years.

Q. How long in your present position?

(Rep. 3):

A. Well, as assistant secretary I don't know the exact date. I would say three years, three, three and a half years.

• • •

(Dep. 59):

EXAMINATION BY MR. LETTVIN

Q. Mr. Williamson, just one question. Do you know who is in control of the defense of this lawsuit?

A. Well, S. H. Kress & Company is.

Mr. Lettvin: That is all.

By Mr. Ely:

Q. Why is S. H. Kress & Company in control of a lawsuit concerning an aerator made by Melard Company? Why are you in control of a suit concerning an item manufactured by the Melard Company, of which you sold 400 or so? Why?

A. Inasmuch as our company has been served, we would control that lawsuit and could hire whatever attorneys we wish to hire.

Q. And you say you are in control of this litigation?

A. Yes, sir.

Q. How do you know the S. H. Kress & Company is in control of this litigation? Did you make that decision?

A. Well, I don't make decisions for the legal division, no, sir.

(Dep. 60):

Q. Who made that decision?

A. Well, our attorneys make that decision.

Q. Who told you that they were in control of the litigation?

A. Our attorneys.

Q. Who? I mean, that you were in control.

Mr. Lettvin: I object. If he says this was between his attorneys and himself, it is privileged.

Q. And the only reason that you know you are in control of this suit is because your attorneys have told you that; is that right?

A. Yes, sir, I would think that was a good reason.

Q. Did anyone at the head of your company, any officer, make that decision that you would control this litigation?

A. Well, our general counsel is an officer of the company.

Q. And did he make that decision?
A. It was made under his direction, yes, sir.
Q. Do you know that?
A. Well, I wasn't there.
Q. You don't know that, sir?
(Dep. 60a):
A. I wasn't there.
Q. You don't know that, do you?
A. No, sir, not firsthand I don't.
Mr. Ely: That is all.
Mr. Lettvin: That is all.

(Whereupon, Mr. Williamson's deposition was closed.)

• • •

(Dep. 1):

IN THE UNITED STATES DISTRICT COURT
(Caption—Civil Action No. 857-G)

Deposition of S. H. Kress & Company, by Arthur F. Guerber, Assistant Secretary, taken by plaintiff, pursuant to notice of taking deposition, motion for inspection and copying and order of Hon. Johnson J. Hayes, United States District Judge, at the offices of Pennie, Edmonds, Morton, Barrows & Taylor, 247 Park Avenue, New York, N. Y., at 2:00 p.m., January 6, 1955, before George Wolf, a notary public of the State of New York.

• • •

(Dep. 6):

ARTHUR F. GUERBER, called as a witness by plaintiff, being first duly sworn by the notary public, testified as follows:

EXAMINATION

By Mr. Ely:

Q. What is your address, Mr. Guerber?

(Dep. 7):

A. My business address?

Q. Both.

A. Home address is 201 East Palisades Avenue, Englewood, New Jersey. My business address is 114 Fifth Avenue, New York.

Q. Are you employed by S. H. Kress & Company?

A. Yes.

Q. Are you an officer of S. H. Kress & Company?

A. Yes.

Q. Are you employed in the legal division of S. H. Kress & Company?

A. Yes.

Mr. Ely: Please note the adverse character of this witness on the record.

Q. Are you a member of the bar?

A. Yes, sir.

Q. Of the State of New York?

A. Yes, sir.

Q. Are you salaried?

A. Yes.

Q. Are your offices with the offices of S. H. Kress & Company?

A. Yes; and I have an office at 218 Fulton Street.

Q. Do you do legal work for others than the company?

(Dep. 8):

A. No.

Q. You are exclusively hired by the company?

A. That's right.

• • •

(Dep. 11):

Q. Who is the head of the legal department at S. H. Kress & Company?

A. I am.

• • •

(Dep. 15):

Q. You say Mr. Lettvin called on you on October 19, 1954, with respect to the interrogatories which had been filed in the case in North Carolina. Those interrogatories were filed November 7, 1954. I am just saying that for the record.

Did you have anything to do with the preparation of the answers to the interrogatories?

(Dep. 16):

A. Yes.

Q. Did you furnish the information to Mr. Lettvin from which the answers to the interrogatories were prepared?

A. Yes.

Q. When did S. H. Kress & Company employ Bair, Freeman & Molinare to represent them in this case, if they ever did so?

A. Well, I would say October 19th would be the date that we understood that they were acting as our attorneys.

Q. Who told you that they were acting as your attorneys?

A. I told them.

Q. You told them?

A. Yes, sir.

Q. And did you at that time retain Bair, Freeman & Molinare as your attorneys?

A. Well, they understood they were acting for us.

• • •

(Dep. 19):

Q. Did you at any time retain Bair, Freeman & Molinare as your attorneys in this case?

A. They are our attorneys in the case.

Mr. Reddy: Would you answer that question.

By Mr. Ely:

Q. Please answer the question.

(Dep. 20):

Mr. Reddy: You realize, apparently, that you have not yet testified that you have retained them. You specifically disclaimed so testifying.

Now Mr. Ely asks you have you ever retained them.

A. I would say we retained them, yes. I would have to say that.

Q. On October 19, 1954?

A. No, I don't say that. I would say on October 19th we acknowledged that they were our attorneys.

Now, as of when we retained them retroactively I can't say, but I would have to say we retained them, yes.

• • •

(Dep. 28):

"Q. Then you believe that this letter of November 2, 1954, Plaintiff's Exhibit 2, is an undertaking by the Melard Manufacturing Company to take over the defense of this action as requested in your letter of May 20th?")

A. Yes, if you understand what we mean by taking over

(Dep. 29):

the defense of the action. I certainly didn't mean that Melard would be substituted as the defendant in the action. My idea is, and we have hundreds—we buy 20,000 different items—we can't check into the patentability of any single item. When a question like this arises, we always consult the supplier.

First we tell the claimant that we have no intention, no desire to infringe or trespass upon the patent rights and that we would like to investigate.

In this case we were never notified prior to this suit. Ninety-nine out of a hundred cases we are given the opportunity of discontinuing sale and dismissing the suit because we are an innocent bystander in the whole affair.

In this case the suit was just dropped right in our lap. We had no alternative except to turn it over to the supplier and say, "Here, you make good on it."

He has to defend the suit—not defend the suit, but he has to provide counsel and pay for counsel who will defend the suit for Kress, but I can settle this today with you fellows, if you want. We are not buying any. We can call the whole thing off any time you want.

(Dep. 30):

Therefore, I assume and I know that I keep full control of the suit, and, as I said, when Mr. Lettvin walked into our office that day, if I didn't like his approach or I didn't like the way he was handling it and what he had done, I could say, "Look, we are not interested in this thing at all. There is no money as far as we are concerned in it, and we are not selling the product now. We are not buying it. So let's call the whole thing off and we will just settle the whole affair."

• • •

(Dep. 37):

Q. Does the S. H. Kress & Company have any interest in the Melard Manufacturing Company?

A. No, sir.

Q. Or any connection therewith?

A. No, sir.

Q. You are not interested in the manufacture of aerators?

A. We do not manufacture anything.

Q. You are not interested in the manufacture of aerators?

A. We are not interested in any manufacturer.

Q. Is it a matter of interest to you whether this Mel-O-Flo aerator is continued to be manufactured, to S. H. Kress & Company?

A. That is a little different. What is the question? (Dep. 38):

Q. Is it any interest to the S. H. Kress & Company whether the Mel-O-Flo aerator continues to be manufactured and sold?

A. Pecuniarily or morally or what?

Q. Any way.

A. Well, we sell the item and naturally we would rather win an infringement suit than lose it.

Q. Is there any particular reason you are interested in keeping the Mel-O-Flo aerators going?

• • •

A. My only answer to this—

The Witness: If you don't object, Mr. Lettvin.

Mr. Lettvin: I can't stop you from answering.

(Dep. 39):

A. (Continuing) —is that we had no choice. You threw us into it.

As I say, 999 out of 1000 cases, the claimant comes to us and if they can get Kress to drop it, they have won a victory, and these people didn't even come to us. This is the first time we ever heard of it. They threw a suit in our lap.

Naturally, we would rather win the suit than lose it, but, as I say, we can settle it today, if you would like.

• • •

(Dep. 41):

Q. Are you aware of the fact that Bair, Freeman & Molinare represent the Melard Manufacturing Company with respect to the Mel-O-Flo aerators?

A. Sure. That's how they came into the case.

Q. And you understand that they still represent Melard on manufacture of the Mel-O-Flo aerators?

A. I can't think of anybody better able to take over the defense of this action, because they know the defense already for Melard.

Q. That isn't just what I asked you.

A. Yes.

Q. Your answer to my question is "Yes"?

A. Yes.

Q. Then, as you see it, you have interests in common with respect to this litigation?

A. We have no interest in common. Our only interest is winning the lawsuit that has been filed against S. H. Kress & Company.

Q. That is—

A. Without any cost to the company.

Q. That is, either a decision for invalidity or non-infringement of Aghnides' patents?

(Dep. 42):

A. Except for personal likes and dislikes, there would be absolutely no interest to S. H. Kress & Company except to win the lawsuit.

Q. By winning the lawsuit, this being a patent case, that would be, as you understand it, that the patent would be found invalid or not infringed by the sale of Mel-O-Flo aerators?

A. That's right.

• • •

(Dep. 50):

EXAMINATION BY MR. LETTVIN:

Q. Mr. Guerber, did S. H. Kress & Company ratify Bair, Freeman & Molinare's preparation and filing of the answer in this case?

A. Yes.

Q. With respect to this indemnity agreement which is marked Plaintiff's Exhibit 2?

A. What is the date of that?

Q. November 2, 1954.

A. Yes.

Q. Would you expect that indemnity agreement to pertain to claims that other patentees would make against S. H. Kress & Company for their manufacture and sale of the product in question?

A. I am not sure that I understand you, but as far as I am concerned—let me see my letter—it is a complete

(Dep. 51):

indemnification for any claims that are made for the sale of Mel-O-Flo aerators.

Q. And that would pertain if other patentees had charged the product to be an infringement, is that right, patentees other than Aghnides?

A. It would be a complete indemnification for any claims made against us by anybody.

Mr. Lettvin: That's all.

• • •

(Dep. 51): EXAMINATION BY MR. ELY

• • •

(Dep. 55):

The Witness: There must be some reason you don't want to settle the case. We are willing to settle it.

Mr. Ely: I think that is a matter of our own affairs.

The Witness: That's all right, too, but you have to admit, Mr. Ely, that it is not common never to make a claim against the defendant before you start suit and surprise him with the issuance of a summons and complaint without making some attempt to have him remove them from sale or acknowledge an infringement or something to that effect.

That's why this case strikes me as being so unusual.

* * *

Mr. Ely: I say that any settlement of this case would have to bind the Melard Manufacturing Company as well as the Kress Company, because it is perfectly obvious that (Dep. 56):

they are participating in this case.

If there will be an injunction issued against both the Kress Company and the Melard Manufacturing Company, then I will settle this case.

The Witness: You mean in the State of North Carolina?

Mr. Ely: I mean against the Melard Manufacturing Company, which is in New York here, against the principal, the manufacturer of the device.

If the Melard Manufacturing Company is willing to agree to recognize the validity and infringement of the patent and agree to a consent decree, I will settle the case with you as well.

Mr. Wiggins: I suggest you might have sued Melard here in New York, if that's what you want.

Mr. Reddy: Now that we are on the record we might just as well say that since patent counsel for the Melard Company is now counsel for the Kress Company it is almost as simple a matter to travel from Chicago to North Carolina as from Chicago to New York. It is equally easy for the Melard Company to defend that case in North Carolina as it is to have same counsel defend the Kress case in North Carolina.

(Dep. 57):

The Witness: I suggest that maybe we change counsel if you are willing to settle the case with just Kress. We would be pleased to change counsel and take different counsel and settle as to Kress.

Mr. Ely: I told you that I will settle this case if the Melard Manufacturing Company is likewise bound by the decree in this case of validity and infringement.

The Witness: Melard isn't a party to this case. Kress happens to have stores in North Carolina.

• • •

Mr. Ely: We expected to have an out and out avowal of the truth of the matter, that the Melard Company is defending the case instead of playing hide and seek, as you have been doing. Instead of coming out and telling the truth of the matter—

(Dep. 58):

The Witness: The Kress Company would not enter into any such arrangement. We do about two hundred million dollars in sales a year and we are not interested in either side in this case except to win a lawsuit against Kress—

Mr. Lettvin: You mean that was brought against Kress.

The Witness: —that was brought against Kress, and we certainly can't understand the motive, especially when a plaintiff is represented by outstanding and reputable counsel, that they wouldn't come to a reputable company like the Kress Company and say, "Look, boys, you are selling something that infringes. Do you want to take it off sale and let's call the whole thing off or do we have to sue you?"

• • •

(Dep. 1):

IN THE UNITED STATES DISTRICT COURT
(Caption—Civil Action No. 857-G)

Depositions of Sidney Shames and Harold Shames, pursuant to subpoenas duces tecum, dated November 26, 1954, at the offices of Pennie, Edmonds, Morton, Barrows & Taylor, Esqs., 247 Park Avenue, New York, N. Y., on December 8, 1954, at 1:30 p.m., before William Herrick, a notary public of the State of New York.

(Dep. 3):

SIDNEY J. SHAMES, called as a witness by plaintiff, being first duly sworn by the notary public, testified as follows:

(Dep. 46):

Mr. Lettvin: The issues of this case—and I am making this statement for the record—the issues of the case between Aghnides and S. H. Kress & Company are validity and infringement of the Aghnides patents. There is nothing else involved and I haven't heard a single question today which was directed toward that subject matter other than the question of whether or not the Aghnides patents or the Aghnides devices were known to this witness.

Mr. Reddy: I would like to refer to what I believe is another issue in the case as between S. H. Kress & Company and Elie P. Aghnides.

It is my understanding of the law that one of the issues in that case can be who is particating or assisting in the defense besides the osttensible defendant.

Mr. Lettvin: There is nothing in the pleadings that would so indicate.

(Dep. 53):

HAROLD SHAMES, called as a witness by plaintiff, being first duly sworn by the notary public, testified as follows:

DIRECT EXAMINATION

By Mr. Ely:

Q. Mr. Shames, you are, I believe, vice president of Melard Manufacturing Company of this city, are you not?

A. That's correct.

Q. What are your duties with the company?

A. As vice president I handle most of the sales end. It is a small organization and it is not that too finely divided, but that would be a good way of dividing it.

Q. Did you negotiate the sale of a number of Mel-O-Flo Aerators to the S. H. Kress & Company which are covered in this order from S. H. Kress & Company, copy of which is marked Plaintiff's Exhibit 1?

A. Yes.

Q. With whom did you deal at the company when you made that sale?

A. The purchasing agent of that department.

Q. What was his name?

A. I believe his name is Vestal.

Q. Did you make more than one sale of these Mel-O-

(Dep. 54):

Flo Aerators to the S. H Kress & Company during the year 1953?

A. Yes.

* * *

(Dep. 63):

Q. Mr. Shames, I hand you a paper which has been marked for identification by Mr. Lettvin as Defendant's Exhibit 4 in this case, do you recognize that? Have you ever seen that sketch before (handing to witness)?

A. I have seen one similar to it, but I don't know if I have ever seen this particular sketch.

Q. Does that, in your opinion, show the cross section of the Melard Mel-O-Flo Aerator?

• • • •

Q. Will you answer my question, please.

A. This drawing shows the elements of the Mel-O-Flo Jet Aerator.

• • • •

(Dep. 66):

Q. Tell me, Mr. Shames, how does that work; what is your opinion as to how that works?

A. Do you have a copy in front of you so you can follow me?

Q. I will come over there with you.

A. What do you want to know?

Q. How the water enters, how it behaves, how it acts, that is what I want to know?

(Dep. 67):

A. The water comes in at the top.

Q. Go ahead.

Mr. Freeman: Mark the word "top" on top.

(Witness complies.)

A. (Continuing): The aerated mixture leaves on the bottom.

Q. How does that operate, in your opinion?

A. The air comes in through the air ports.

Q. Writ in the word "air."

A. It is marked already.

Q. Yes. What happens to the water, in your opinion?

Mr. Lettvin: Trace the flow of water.

Q. Use the red pencil.

A. All right (witness complies).

Q. What have you drawn in red?

A. That is the incoming water?

Q. What are these lines in red on either side?

A. The incoming water is divided into streams in a series of channels which are arranged in annular fashion. The channels are formed by the guide ring, so labeled, and the teeth of the plug. After the water is led on to the sloping portion of the guide ring, it is directed inward, conically inward.

(Dep. 68):

Q. Then what happens?

A. So that it then strikes the plug.

Q. You mean the streams of water or the jets of water strike the plug; is that right?

A. The water, after it leaves the inclined surface, is then led on to the plug.

Q. What happens when the water hits the plug?

A. Then it is broken up and the water is deflected outwardly and downwardly.

Q. Where does the water go upwardly and downwardly?

A. It goes into the region between the plug and the barrel.

Q. What happens to the water, in your opinion?

A. The water is dispersed. It then meets the incoming aspirated air and is mixed.

Q. Do you think you have drawn the limit of where the water goes?

A. What do you mean by "limit"?

Q. Doesn't the water strike against the side of the casing?

A. More or less.

Q. Then what happens to the water?

(Dep. 69):

A. The water and air then mix and emerge as an aerated stream.

Q. What has been called a coherent aerated stream?

A. What do you mean by "coherent"?

Q. I mean a stream in which the air bubbles are imprisoned in the stream so it is what has been called a coherent stream. You are familiar with the term coherent stream.

A. The air is not imprisoned in the water. The stream is emitted as an aerated stream, which has a whitish color to it.

Q. What imparts the whitish color to the stream?

A. The air bubbles in it.

Q. Is there any aeration of the water in the area between the ring and the neck of the plug, that area which I will mark "X"?

A. You mean above it?

Q. The plug has a diaphragm on top, hasn't it, or a disk on top?

Mr. Lettvin: As S. H. Kress & Company's attorney I am going to ask, with respect to this question, whether the inquirer intends to be bound for the simple reason that there seems to be conflict between that and as expressed in the District Court's opinion; there seems to be some (Dep. 70):

sort of conflict, which appears, from the District Court's opinion, to have been decided one way and which appears to have been argued in contrary manner in the Court of Appeals here in New York here this morning, at which both Mr. Ely and Mr. Hamilton attended, and know of such conflict.

If you intend to be bound by this witness' testimony with respect to that, you may proceed. But as the Kress Company's attorneys, I intend to reserve my objection.

Mr. Ely: I am not bound by what he says. I am simply asking his opinion. I am not bound by his opinion.

Q. In your opinion, does any aeration of the water take place in the area bounded by the underside of the disk, the neck of the plug and the ring or what is known as the guide ring?

A. No, there is no aeration there.

Q. That is, all of the aeration, in your opinion, takes place after the jets of water strike the plug and are thrown off toward the outer casing is that right?

A. That's right.

Q. What is the function of the retaining ring, in your opinion?

(Dep. 71):

A. The retaining ring holds—

Q. No.

Mr. Lettvin: Let him finish.

Mr. Ely: I will withdraw the question.

Q. What is the use of the screen?

A. The screen is placed in the device because in order to sell the device commercially the housewife is used to seeing a screen or a filter, and though this device will work without the screen, we might encounter difficulty in selling the product if you omitted it. The screen is not a necessary element of this device.

• • •

(Dep. 1):

Deposition of Elie P. Aghnides, the plaintiff, taken by defendant pursuant to notice dated November 16, 1954, at the offices of Pennie, Edmonds, Morton, Borrows & Taylor, 247 Park Avenue, New York, N. Y., on December 6, 1954, at 10:00 a.m., before George Wolf, a notary public of the State of New York.

• • •

(Dep. 2):

ELIE P. AGHNIDES, the plaintiff herein, called as a witness by defendant, being first duly sworn, testified as follows:

Mr. Lettvin: Before proceeding with the oral testimony, I would like to ask you, Mr. Aghnides, if you have produced the various documents and things that were referred to in the defendant's motion for inspection and copying which was served upon your counsel in North Carolina?

The Witness: I don't understand the language.

Mr. Ely: I think if he says yes it is all right.

• • •

(Dep. 26):

Q. Have you produced here today a copy of the Belgian Patent No. 406,702?

Mr. Ely: We can bring a copy of that. You didn't ask for that, did you?

Mr. Lettvin: I thought you might have brought it.

Q. You do remember filing an application for patent in Belgium which finally issued as Belgian Patent No. 406,702; is that correct?

A. I do.

Q. And that was filed December 8, 1934?

A. I believe so.

Q. Had you made any devices similar to that shown in the drawings of your Belgian patent prior to filing the application for patent in Belgium?

A. I had, according to some of the drawings shown.

(Dep. 27):

Q. And you had built devices prior to filing the application for patent?

A. Definitely, sir.

• • •

Q. Mr. Aghnides, I hand you a sheet which purports to illustrate on the front and rear side thereof the drawings which appeared in your Belgian patent. Do you recognize those figures?

A. I do.

Q. You say that you made devices prior to filing the application for patent in Belgium; is that correct?

A. Yes, I did.

Q. Did you make a device as shown in Fig. 1? (Dep. 28):

A. Yes, I did.

Q. Did you make a device as shown in Fig. 2?

A. No, I have not.

Q. Did you make a device as shown in Fig. 3?

A. No, I have not.

Q. Did you make a device as shown in Fig. 4?

A. I have not. I shall make an amendment about Fig. 2, which being cut off, I didn't realize that below the cut off portion is supposed to be the end portion of Fig. 1. So I did make a representative of Fig. 2 with resistance means shown in Fig. 1.

Q. But you didn't make any model with respect to Fig. 3?

A. I did not.

Q. And you had never made any model with respect to Fig. 4?

A. No, I did not.

Q. Did you make a model with respect to Fig. 5?

A. Fig. 5, yes.

Q. That is conditioned on the basis that the bottom end is cut off; is that correct?

A. Yes, that's right.

Q. Did you make a model as shown in Fig. 6?

A. I did make a model regarding Fig. 6 as shown in

(Dep. 29):

connection with Fig. 8.

Q. I was going to get to that.

You did make a model as shown in Fig. 6?

A. I did.

Q. Did you make a model as shown in Fig. 7?

A. No, I did not.

Q. Did you ever make a model as shown in Fig. 8?

A. Yes; that's in connection with Fig. 6.

Q. Were those models made prior to your filing the application for patent or subsequent thereto?

You testified that you made the model in Fig. 1 prior to filing the application for patent.

A. Yes.

Q. Now, with respect to Fig. 2, was that before or after?

A. I don't remember whether I made Fig. 2 after filing, but I think I made it before.

Q. Did you make a model of Fig. 5 before you filed the application for patent or after?

A. Before.

Q. Did you make the model of Fig. 8 before you filed the application for patent or after?

A. Before.

Q. Mr. Aghnides, were any models ever made com-

(Dep. 30):

mercially in Belgium in accordance with any of the figures shown in your Belgian patent?

A. Yes.

Q. Which figure?

A. Fig. 1.

Q. Any of the other figures?

A. Commercially, no.

Q. Not even Fig. 8?

A. No.

Q. Or Figs. 2 or 5?

A. No. Of course, this corresponds to Fig. 1. Fig. 5 corresponds to Fig. 1, the plurality of orifices and screens below.

Q. The only difference is where the air inlet is; is that correct?

A. Yes, that's correct.

Q. The air inlet in Fig. 1 being in the side of the casing?

A. In both cases the air inlets are below the perforated diaphragm.

Q. But I said in Fig. 1 the air inlets are in the side of the casing.

A. Also in the other one.

Q. And the air inlet in Fig. 5 is at the upper end of the converging nozzle; is that correct?

(Dep. 31):

Mr. Ely: I think the drawing speaks for itself.

Q. Did you file any applications in foreign countries corresponding with this Belgian patent?

A. I did.

Q. What countries did you file in?

A. United States of America, Germany, where a patent was just granted, France, Belgium, of course, was mentioned, Italy, Spain, England.

Q. Were those all filed within one year after the—

A. They were.

Q. —filing date of the Belgian application?

A. Right. I am sorry. Will you please add Canada, too.

Q. I show you a copy of a file wrapper of an application for patent in the name of Mr. Elie Aghnides, bearing serial No. 52, 923, which I am marking for identification as Defendant's Exhibit 1.

(Application for patent in name of Elie Aghnides, serial No. 52,924, marked Defendant's Exhibit 1 for identification.)

Q. And that represents the history of prosecution of (Dep. 32):
this application in the Patent Office, does it not, in the United States?

A. Yes.

Mr. Ely: What copy?

Mr. Lettvin: Certified copy of the application, serial 52,923.

Mr. Ely: Say that over again.

(Record read.)

Q. Just calling your attention to this file wrapper and comparing the drawings therein on page 14 of that file wrapper with the drawings in the Belgian patent, would you agree with me that there is some correspondence between Figs. 1 of both?

A. What do you mean by "some correspondence"? There is correspondence.

Q. There are small differences, aren't there?

A. Yes.

Q. But in general there is correspondence?

A. Yes.

Q. And the same is true with respect to Figs. 2?

A. Yes.

Q. And with respect to Figs. 3?

A. Yes.

Q. And with respect to Figs. 4?
(Dep. 33):

A. Yes.

Q. And with respect to Figs. 5?

A. Yes.

Q. And with respect to Figs. 6?

A. Yes.

Q. And with respect to Figs. 7?

A. Yes.

Q. There is no figure in the United States application which corresponds with Fig. 8 of the Belgian patent, is there?

A. No, I don't see it.

Q. There is a new Fig. 8 in the United States application?

A. That's right.

Q. And Fig. 9 is just a cross section of Fig. 8 of the U. S. application; correct?

A. That's right.

Q. Mr. Aghnides, I call your attention to a certified copy of the file wrapper of your Patent No. 2,210,846, which represents the prosecution of the application for patent serial No. 182,884 in the United States Patent Office.

That file wrapper represents the history of prosecution of that patent in the United States Patent Office, does it (Dep. 34):

not?

A. It seems to, yes.

Q. I call your attention to page 17 of that file wrapper which shows the drawing and I ask you to compare the drawings in your earlier filed application serial No. 52,923, with the drawings in your application which resulted in patent, and I ask you, do you find a figure in the drawing of serial No. 52,923 that corresponds to Fig. 1 of serial No. 182,884; that is, Patent No. 2,210,846?

Mr. Ely: Wait a minute. What is this question? Off the record.

(Discussion off the record.)

A. Yes.

Q. Which one do you feel corresponds?

A. Fig. 1.

Q. There are differences?

A. And also Fig. 4.

Q. Just take one thing at a time.

A. Yes.

Q. I ask you, do you find the stucture shown in Fig. 1 of your Patent 2,210,846 illustrated in your earlier application 52,923?

A. In principle, yes.

(Dep. 35):

Q. I didn't ask you in principle. I asked you in structure.

A. These are not photographically the same structures.

Q. I understand what you are driving at, Mr. Aghnides, and that can be brought out by your attorneys. They are very capable men. They will bring that out, but that wasn't my question.

My question was, do you find the structure shown in Fig. 1 of your patent illustrated in serial No. 52,923?.

A. You mean photographically the same? What do you mean, the structure, or operatively the same?

Q. I mean structurally. Let me call your attention to something.

You show in Fig. 1 of your patent a diaphragm 16 and a downstream diaphragm or screen 20, just the two of those; correct?

A. Yes.

Q. Do you find anything in here which shows a single diaphragm above the air inlets—when I say "in here," I am referring to serial No. 52,923—and a single screen below the air inlets?

A. No. I find—

(Dep. 36):

Q. Well—

Mr. Ely: Let him finish.

Mr. Lettvin: We will go through that. We will pick that up. I want to take this logically.

Q. Is your answer you don't find that structure?

A. I don't find a picture with one screen, but I find the equivalent thereof.

Q. Do you find anything in Patent 2,210,846 which corresponds structurally, not functionally but structurally, to the illustration in Fig. 2 of your patent application, serial No. 52,923?

A. Did you say structurally?

Q. Structurally but not functionally.

A. Structurally, no.

Q. The same question with respect to Fig 3 of your application 52,923; is that structure, forgetting function, found in your application which resulted in your Patent 2,210,846?

A. No, I do not see that construction.

Q. And the same question with respect to Fig 4 of your application, serial No. 52,923?

A. Same reply.

Q. No?

A. Right, no.

(Dep. 37):

Q. And the same question with respect to Fig. 5 of your application, serial No. 52,923?

A. I do find that Fig. 4 corresponds to—Fig. 4 of my patent corresponds to Fig. 5.

Q. Are you speaking structurally or functionally?

A. Structurally, too. I have here a diaphragm and I have two screens. So it does.

Q. With respect to Fig 6 of your earlier application, serial No. 52,923?

A. There isn't any.

Q. There is nothing in the patent corresponding; right?

A. That's right.

Q. With respect to Fig. 7, is there anything in the patent corresponding to Fig. 7 of your serial No. 52,923?

A. No, there is not.

Q. Is there anything in your patent corresponding to the Fig. 8 of your serial No. 52,923?

A. Yes. We have Fig. 8 in both cases.

Q. Those are identical?

A. Yes.

Q. And with respect to Fig. 9 of your 52,923, is that identical with Fig. 9 of your patent?

(Dep. 38):

A. Yes, it seems so.

Mr. Lettvin: I identify the file wrapper of Patent No. 2,210,846 as Defendant's Exhibit 2.

(File wrapper of Patent No. 2,210,846 marked Defendant's Exhibit 2 for identification.)

Q. Let us return to your application, serial No. 52,923, Defendant's Exhibit 1 for identification.

Is the structure shown in Fig. 2 the equivalent of the structure shown in Fig. 1 functionally?

A. In this same application?

Q. In that application, yes.

A. In principle, yes.

Q. Is the structure shown in Fig. 3 the equivalent of Fig. 1 in operation?

A. It would give a similar result. As I told you, I did not build Fig. 3.

Q. Is it directed toward obtaining the same results?

A. Yes.

Q. And you would figure that the principles of operation of Fig. 3 and Fig. 1 were the same; is that correct?

A. I would think so.

Q. Is that true with respect to a comparison of Fig.

(Dep. 39):

1 and Fig. 4?

A. That is also in principle the same because there is one restricted orifice and two screens below and air vents on the side.

Q. What about Fig. 5 and Fig. 1?

A. The same.

Q. And the same is true with respect to Fig. 7 and Fig. 1?

A. Fig. 7 I never built.

Q. I am talking about the principle of operation.

A. Yes.

Q. And the same is true with respect to Fig. 8 and Fig. 1?

A. No. Fig. 8 is not the same thing as Fig. 1.

Q. I didn't ask you whether it was the same thing. I asked you did they operate the same.

A. No.

Q. Just comparing Fig. 1 and Fig. 2, is there anything that is shown in Fig. 1 from a standpoint of structure or function which brings about a different result than that which you would obtain from Fig. 2?

Mr. Ely: Pardon me.

Mr. Lettvin: Read that question again.

(Dep. 40):

(Question read.)

Q. I am referring to your application serial No. 52,923.

A. In principle the operation is the same, though the efficiency may differ.

Q. But is there anything that would bring about that change in efficiency?

A. What do you mean? I don't understand your question.

Q. You said the efficiency may differ.

A. Yes.

Q. What is shown in Fig. 1 that may change that efficiency?

A. Fig. 1 is shown to have one orifice in the diaphragm and two screens—Fig. 2, I mean. Fig. 2 is shown to have one orifice in the diaphragm and two screens.

Q. And?

A. And Fig. 1 is shown to have a plurality of orifices in the diaphragm with two screens.

Q. So, then, the difference in efficiency would result from the variation between the single orifice in the diaphragm in Fig. 2 as contrasted with the multiplicity of orifices in the diaphragm in Fig. 1; is that right? (Dep. 41).

A. No, sir.

Q. Then would you explain?

A. No, because when you have a very limited supply of water, in other words, very low pressure, you can afford to put only—you cannot afford but one orifice to give enough velocity to the stream. Then you would have a perfectly good aerator with one orifice and sufficient screens below. But when you have high water pressure, then you have enough velocity in each stream by adopting a diaphragm with a plurality of holes.

Q. The same question with respect to Fig. 3 and Fig. 1 in comparison; is there anything there that you find in Fig. 1 of serial No. 52,923 that would vary the operation as compared with the operation of Fig. 3?

A. I told you that I did not build Fig. 3.

Q. I understand that. You didn't build Fig. 2, either. I am asking you on the principle of operation.

A. The principle is the same.

Q. And the same is true with respect to Fig. 4 and Fig. 1, a comparison thereof?

(Dep. 42):

A. Fig. 4 and Fig. 2, they fall in the same category.

Q. I am asking you to compare Fig. 4 to Fig. 1.

A. I have to repeat everything I said with respect to Fig. 2. One can repeat everything.

Mr. Lettvin: Off the record.

(Discussion off the record.)

A. What I said with respect to Fig. 2 in respect to Fig. 1 applies also to Fig. 4 in respect to Fig. 1, because Fig. 4 shows one orifice in the diaphragm and two screens which are now shown in the drawing below, like Fig 2 showing one orifice in the diaphragm and two screens which are not shown in the drawing.

Q. And your answer is also true with respect to the comparison of Fig. 3 and Fig. 1; is that correct?

A. As I told you, having not built Fig. 1 I would think it is the same.

Mr. Ely: Not Fig. 1.

A. Having not built Fig. 3, I would say it operates in the same way.

Q. What is the purpose of the stack of three nozzles, converging nozzles, in Fig. 3, for the purpose of inducting

(Dep. 43):

more air?

A. It is like putting on the wall of the aerator, instead of one row of holes, you can put two rows of holes. So it is exactly the same as the aerator I am building where you might put a second row of holes below.

Q. Air holes, you mean?

A. Air holes.

Q. Now, comparing Fig. 5 and Fig. 1 of your application, serial No. 52,923, would you say the same is true?

A. They are the equivalent, yes.

Q. And the same with respect to a comparison of Fig. 7 with Fig. 1?

A. Fig. 7 also, like Fig. 2, has one orifice in the diaphragm and is supposed to have two screens below, which are not shown in the drawing.

Q. But the mode of operation and the principle of operation is the same; is that correct?

A. Yes. I must make a remark about 34 in Fig. 7, which indicates a flexible hose, which has not been used. It has never been used.

Q. I understood you to say that devices were constructed in accordance with the Belgian Patent No. 406,702; is that (Dep. 44):
correct?

A. Devices?

Q. Commercial devices were constructed?

A. Yes.

Q. In accordance with Fig. 1?

A. Fig. 1.

Q. Where were those devices sold?

A. They were sold in Belgium.

Q. Were there any improvements or modifications on the device that was made in Belgium? Were there any improvements included?

A. Which improvements are you referring to?

Q. Well, was the device in Belgium made strictly in accordance with Fig. 1?

A. Yes, strictly in accordance with Fig. 1.

Q. Do they still manufacture it that way?

A. No.

Q. When did they change?

A. We have a model of the Belgian aerator on Exhibit 19.

Q. When did they change the manufacture of Exhibit 19?

A. It is a big order. I don't know. That was made before I came to America in 1937, I suppose.

(Dep. 45):

Q. You came to America in 1937 for the purpose—

A. Or maybe a little later.

Q. Was it made before you came to America in 1937 or later?

A. I don't remember that, but I certainly brought it with me in 1939, you see.

Q. That you brought in 1939?

A. Yes.

Mr. Ely: That you brought in 1939. You had better say what you are talking about.

The Witness: Exhibit 19.

Mr. Lettvin: He is talking about what is identified as Exhibit 19, the aerator at the end of Exhibit 19.

Q. That was made in Europe, you say?

A. In Europe, Yes.

Q. I just want to go back on that one question and ask you again, because you are indefinite about it, when were changes made in the device that was being manufactured in Belgium, to the best of your recollection? Take your time.

A. What kind of change? We made them smaller and smaller, which didn't change the principle.

Q. When you say "smaller and smaller," you mean

(Dep. 46):

smaller and smaller in height?

A. Yes. In other words, we made it more economic, shorter, all these things.

Q. That isn't my question. You said that the devices that were first manufactured in Belgium were made in substantially strict accordance with what is shown in Fig. 1 of your Belgian patent; is that right?

A. That's correct.

Q. And now you say that they then started to make modifications?

A. I started to make in metal, which were naturally smaller, for the faucet aerators.

Q. Was this original one in rubber?

A. This is a rubber connector. This is metal. So it was put together.

Q. You started to make changes?

A. Yes, I started to make in metal for screwing on to the faucet.

Q. Did they start to manufacture them that way?

A. Yes. That's what I brought you. That came a year or two later than this one.

Q. When was this metal screwed on to a connector first made by you, do you recall?

A. First made? The first tests I made, I made them (Dep. 47):

in metal and screwed them on to the faucet, but the first commercially produced ones were with a top connector in rubber and they were sold at Brussells University exhibition in 1935, where a medal and diploma of honor was given as the outstanding novelty or invention of the exhibition. That is so. I have an official letter.

Q. Here is what I want to know: When did this form of the invention or when did this form of your device first become produced by your Belgian manufacturer as shown in Plaintiff's Exhibit 19 of the Chicago lawsuit?

A. I would think, since I have to refer purely to my memory—it is 20 years ago, about—that metal-made aerators screwed on to the faucet were first applied to faucets in Belgium in 1936 or 1937. I don't remember.

Q. Was it of this type as shown on Plaintiff's Exhibit 19?

A. Yes, of this type. I mean the outer appearance, at least.

Q. What about the inside appearance?

A. The inside appearance, we put the screens in a casing to make it easy to clean and all these things.

(Dep. 48):

Q. Did it have the same number of screens as presently in your Plaintiff's Exhibit 19?

A. Yes, it had the screens.

Q. When you came to the United States in 1937, whom did you speak to concerning license agreements—Acushnet?

A. Yes.

Q. And also Chicago Faucet?

A. Chicago Faucet Company, and also Republic Brass in Cleveland.

Q. And how many of those organizations took licenses?

A. All three took licenses.

Q. Republic did, too?

A. Yes.

Q. You didn't produce a copy of the Republic license, did you?

A. That was cancelled a year after they took a license and I don't even have a copy. It was before the war.

Mr. Ely: We couldn't find it.

Q. You couldn't find it?

A. No.

Q. You don't have a copy of the Republic license?

(Dep. 49):

A. No; but it was practically an exact copy of the Chicago license, of which you will have a copy, the letter.

Q. When you came to this country, did you have some models of these devices that were being manufactured in Belgium?

A. Yes, I brought my Belgian aerator. I also brought the French made aerator. I brought an English made aerator, and that's how I demonstrated to the interested parties my aerator.

Q. And did you bring them plans and specifications, too, as to how to build these aerators?

A. No.

Q. Did you ever supply plans and specifications to your original three licensees, Acushnet or Republic or Chicago Faucet Company?

A. I don't remember having supplied blueprints.

Q. How did they know how to make this?

A. They had the patent and they had also the Belgian samples.

Q. But your patent in the United States did not issue until 1943.

A. I gave them drawings.

Q. You did give them drawings?

(Dep. 50):

A. Yes, sir.

Q. That is what I asked you.

A. Well, drawings. Pardon me. Drawings of my patent application.

Q. My mistake.

A. And also the European samples.

May I continue?

Q. Yes.

A. And what they built here by themselves does not correspond in size or design neither to the European samples I produced nor to the patent drawings.

So they made their own aerators.

Q. When did Achusnet first begin to make their devices in this country?

A. Well, their contract was signed in 1937. I suppose they started in 1938.

Q. Don't you have any records as to when they started?

A. When you sign a contract you start applying the clauses of the contract. It was at the end of 1937, so I believe they started in 1938, because they diligently proceeded with the contract.

Q. They did diligently proceed with the contract?

A. Yes.

(Dep. 51):

Q. Was the device that they made substantially in accordance with Plaintiff's Exhibit 14 of the Chicago lawsuit?

A. Is that what you are holding in your hand?

Q. Yes.

A. No, the first ones were slightly different. The second patent, which is restricted orifice, was not incorporated, and this connecting part, which is a different invention of mine, was also made in a different way. It looked in appearance the same, but the connecting part was made in two pieces and I found some way of making it in one piece and I sent them samples. So they changed their molds.

Q. When did you do that? When did you find a way to make it in one piece?

A. The connecting part I found a way to make in one piece in Europe.

Q. When?

A. Possibly 1938, 1939. 1938, I suppose.

Q. Go ahead. And when did your improvement of the —orifice, did you say?

A. Of the second patent below?

Q. Yes. When did you incorporate that?

A. That I suppose was incorporated sometime in 1938,

(Dep. 52):

maybe the beginning of 1939.

Q. When did you develope that concept?

A. Oh, sometime in 1938, I believe.

Q. And when did they start manufacturing them with that orifice?

A. Maybe towards the end of 1938 or in 1939 sometime, I suppose. I would say in 1939, not before, because it took time to make molds.

Q. Was the orifice necessary to make the Acushnet device work better?

A. It makes the contour of the stream, the jet, somehow softer. It evens off the pressure. The faucets are being opened and closed in all floors, in all homes, and there is a constant variation of water pressure in the pipes, and the restriction above the diaphragm has some beneficial effect.

Q. And when did you first have that concept?

A. That concept I had, I remember it was after the Brussels exhibit, the Brussels University exhibition. I suppose I first got it around 1936, 1937, I don't remember exactly.

Q. Did you incorporate it in your devices?

A. Then, no.

Q. When did you first incorporate them in your devices?

(Dep. 53):

A. I believe sometime in 1938, in Europe, and maybe towards 1939 in this country.

Q. Did you file any application in Europe on that development?

A. No, because I came in 1939 here and I filed here. The first application was here.

Q. Is that the application that resulted in your Patent No. 2,316,832?

A. Correct.

Q. Did you file any foreign applications corresponding to your U. S. application which resulted in your Patent 2,316,832?

A. My Swiss licensees applied for a structure with those two disks like this, and then after the war I made applications in foreign countries as to this and other constructions.

Q. What country?

A. Important European countries: England, France, Belgium, Germany, Italy, I suppose.

Q. I understand that this model identified as Plaintiff's Exhibit 19 in the Chicago lawsuit was demonstrated in the Patent Office; is that correct?

A. That's right.

(Dep. 54):

Q. I also notice that the aerator mechanism which screws off the adapter is of a greater outer diameter than the connection of the adapter to the hose; is that correct?

A. I don't know what you mean.

Mr. Lettvin: Would you read that question to him.

(Question read.)

A. Right. Being a female thread, it has got to be of a larger diameter than the spout to which it is screwed.

Q. Does that smaller adapter contribute to the operation of your aerator?

A. In this sample you are indicating to me, it was not intended to make a smaller adapter for the purpose you are referring to. It is merely to be able to push into a hose of a regular dimension.

Q. But that wasn't exactly my question as to what your purpose was in making it this way. I am not interested in your purpose. I just wanted to know whether the small size of the adapter contributed to the operation of your aerator.

A. In this case, as the aerator you are holding in your hand has a second perforated disk, it would not make any (Dep. 55):

noticeable difference.

Q. Would it make a difference if there was only one perforated disk?

A. Then it would make a difference when the upper part of the aerator has a restricted orifice. When the portion of the aerator upstream the diaphragm is restricted, that would have a certain pressure distributing effect.

Q. Well, did it in this case? I understand that you tested it before the Patent Office—

A. Yes.

Q. —both with one disk and with two perforated disks; is that correct?

A. That's right.

Q. Then did it have an effect when you tested it with only the single perforated disk?

A. It may have had some effect.

Q. What would your theory tell you, because you are a theoretician on this; did it have an effect or didn't it have an effect?

A. It could have an effect if it was especially built for that purpose, because the restriction in that case is way up. The pipe itself has a restriction. I did not build a restriction any smaller than the pipe itself, so if it comes

(Dep. 56):

through a pipe with a very restricted orifice, naturally that in itself would have an effect.

Q. You mean to say your adapter here is not smaller than the rubber tube which is fitted over it?

A. That's what I say, yes, sir. I may add, at least it was not intended to be. We measured it up.

• • •

(Dep. 57):

It is stipulated and agreed by and between the parties that Defendant's Exhibit 3 is exempletive in the upper figure thereof of a portion of Plaintiff's Exhibit 19 which was used in the Chicago lawsuit, and that the lower figure thereof is illustrative of the cross section of Plaintiff's Exhibit 17 in the Chicago lawsuit.

Is that all right?

Mr. Ely: Yes.

• • •

(Dep. 60):

Q. This was not fully gone into, and I am referring to Plaintiff's Exhibit 19 in the Chicago lawsuit. I would like to ask you this question: It is true that this aerator at the end of Plaintiff's Exhibit 19 of the Chicago lawsuit has two perforated disks—

A. Yes.

Q. —above the air holes; is that correct?

A. Right.

Q. And how was that tested before the Patent Office? How did you demonstrate this model before the Patent Office

A. I demonstrated it with and without upper perforated disks.

Q. That is, with one perforated disk and with two?

A. And with two perforated disks, that's right.

(Dep. 61):

Q. And when you tested it with one perforated disk and you tested it with the two perforated disks, was the result any different.

A. There was no difference in character. It was a little smoother.

Q. It was a difference in degree?

A. Well, not in degree of aeration, but it was a difference in the smoothness.

Q. In degree of smoothness?

A. In degree of smoothness. The pressure was not jumping irregularly from one point to the other.

Q. You brought suit on your Patent No. 2,210,846 against Goodrie and Wrightway Engineering Company in Chicago; is that correct?

A. Right.

Q. You did not charge Goodrie and Wrightway with infringement of your Patent 2,316,832; is that correct?

A. Correct.

Q. Your Patent No. 2,210,846 was declared invalid in the district court; is that correct?

A. Correct, in Chicago.

Q. And it was declared invalid in the Court of Appeals; is that correct?

A. That's correct.

(Dep. 62):

Q. And upon petition for rehearing the Court of Appeals refused to hear the case; is that correct?

A. Correct.

Q. And you filed a petition for writ of certiorari to the Supreme Court of the United States and that was denied; is that correct?

A. Correct.

Q. And then you filed a motion with Judge Minton of the U. S. Supreme Court requesting that the time within which to file for rehearing on the petition for writ of certiorari before the Supreme Court of the United States be extended; is that correct?

A. That's right.

Q. And that was denied; correct?

A. I believe so.

Q. And that latter motion to Judge Minton was predicated in part upon the decision that you hoped or expected to receive in the pending instant case; is that correct?

A. I believe so.

END OF VOLUME 1 OF 2 VOLUMES.

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IN THE

UNITED STATES COURT OF APPEALS

FOR THE FOURTH CIRCUIT

No. 7,294

S. H. KRESS & COMPANY,

Appellant,

vs.

ELIE P. AGHNIDES and CHASE BRASS & COPPER COMPANY, INC.,

Appellees.

Appeal from the United States District Court for the Middle District of North Carolina, Greensboro, North Carolina.

Appendix to Appellant's Brief

Volume 2

(EXHIBITS)

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IN THE

UNITED STATES COURT OF APPEALS

FOR THE FOURTH CIRCUIT

No. 7,294

S. H. KRESS & COMPANY,

Appellant,

vs.

ELIE P. AGHNIDES and CHASE BRASS & COPPER COMPANY, INC.,

Appellees.

Appeal from the United States District Court for the Middle District of North Carolina, Greensboro, North Carolina.

Appendix to Appellant's Brief

Volume 2

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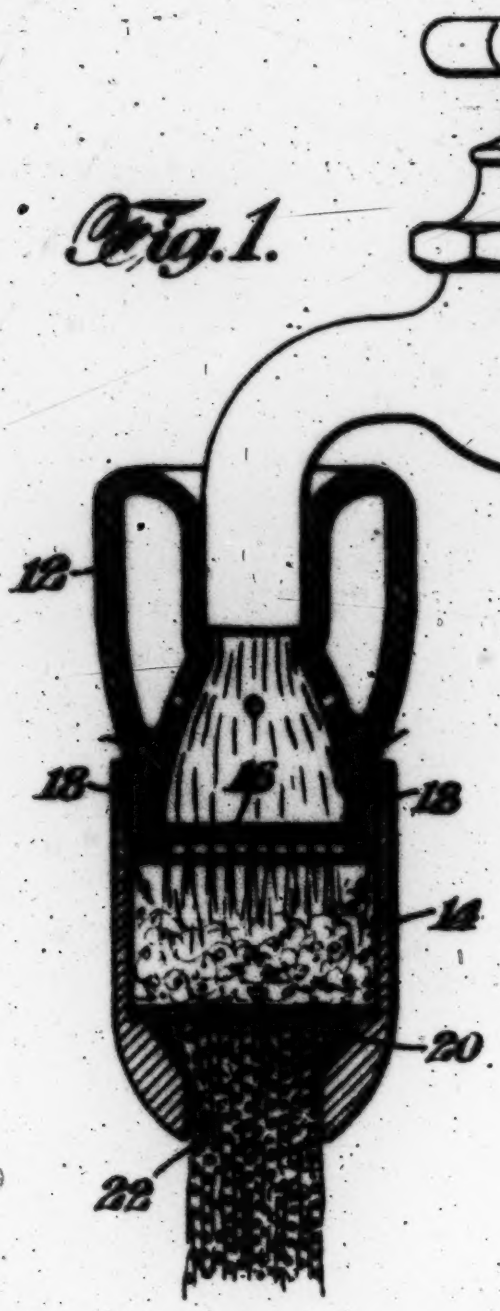
2 App. 1

Aug. 6, 1940. E. AGHNIDES 2,210,846

FLUID MIXING DEVICE

Filed Dec. 31, 1937

Fig. 1.



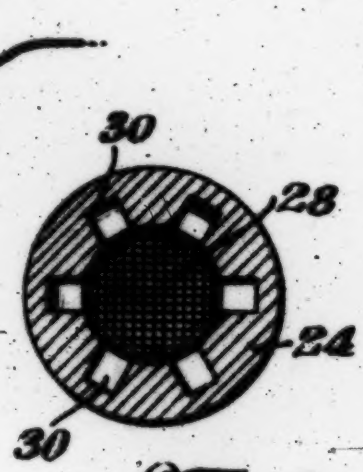


Fig. 3.

Fig. 4.

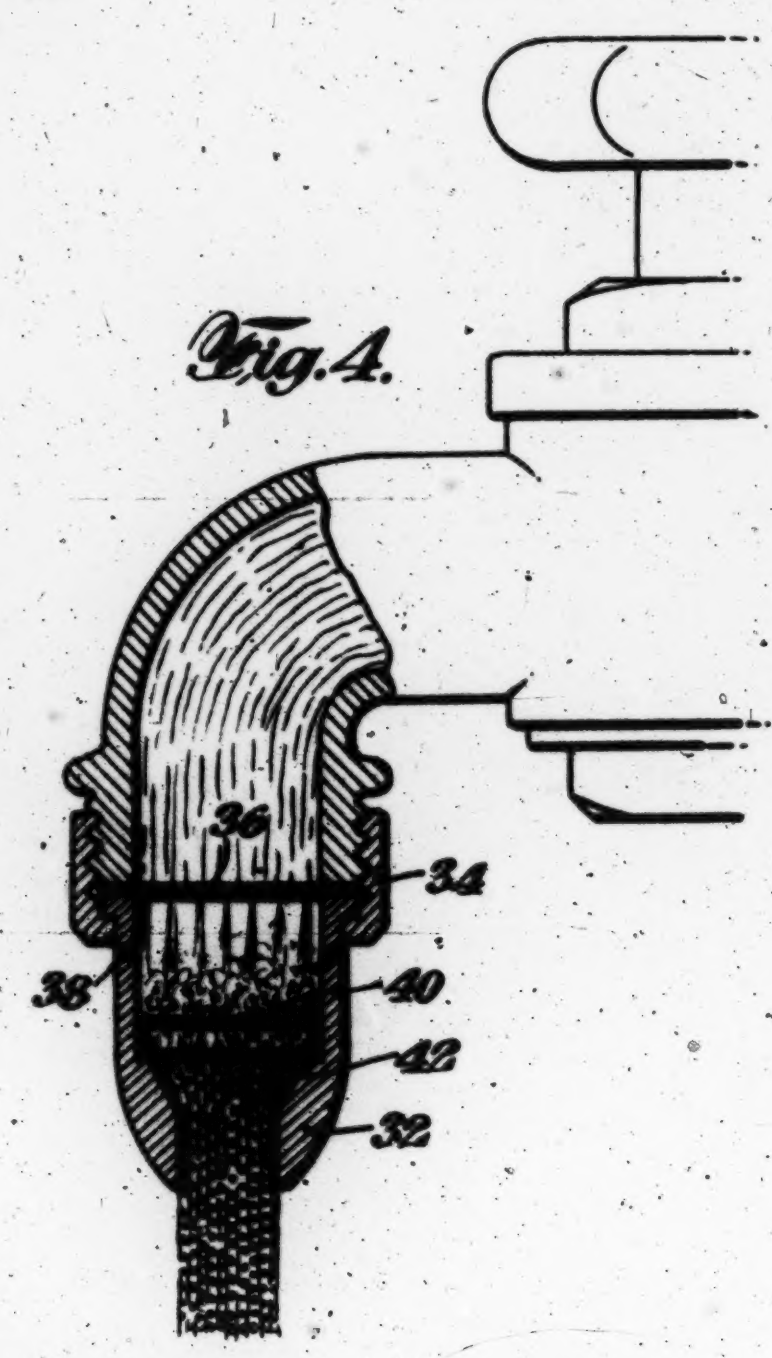


Fig. 8.

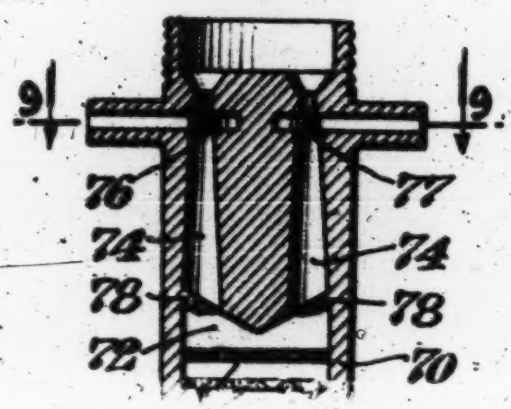


Fig. 2.

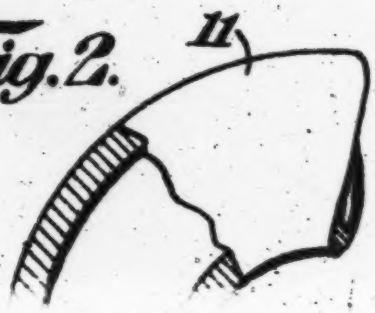


Fig. 5.

Patented Aug. 6, 1940 2,210,846

UNITED STATES PATENT OFFICE

2,210,846

FLUID MIXING DEVICE

Elio Agnisdes, New York, N. Y.

Application December 31, 1937, Serial No. 182,884
In Belgium December 8, 1934

5 Claims. (Cl. 261—76)

This invention relates to a device for intimately mixing a gas with a liquid, and ordinarily is employed for aerating water. This application is a continuation in part of my earlier application Serial No. 33,922, filed December 4, 1935.

Broadly speaking, my invention consists of a device intended to be connected to a source of liquid under pressure, such as an ordinary water tap, and includes a chamber provided with one or more apertures through which the water is forced into the chamber with substantial velocity and as a result the liquid stream has very substantial kinetic energy. Proper openings are provided leading into the chamber from the outside air so that the flow of water will draw air into the chamber according to the well-known Venturi principle. In accordance with my invention, means are provided in the path of the stream of water after it leaves the aperture or apertures and before it discharges at the outlet end for finely breaking up the water and offering sufficient resistance for thoroughly mixing it with air. An outlet for the chamber is provided from which the water mixed with air can emerge. It is advisable to have the outlet of smaller cross section than the cross section of the chamber so that the water will flow in a coherent stream; but the outlet should be of sufficient size relative to the aperture or apertures through which the water is introduced into the chamber so that the water mixed with air will emerge at a substantially lower velocity than the water entering the chamber. Of course, when I refer to the outlet forming a coherent stream, I do not mean to imply that the outlet cannot be divided into several such streams, if desired.

The essential feature of my invention is an arrangement of a dividing means in the path of the liquid emerging from the aperture or apertures delivering liquid to the aforesaid chamber, this dividing means being adapted to finely break up the fluids and to imprison in the liquid, air particles forming therein such small bubbles that they remain in suspension in the jet.

In the devices suggested until now, the air drawn in by the liquid separates immediately at the outlet of the apparatus and no known apparatus has for its object, as is the case with my invention, the formation of a coherent "white" jet, this being due to the fine division of the air and to the formation of a true suspension of a multitude of air bubbles in the water.

In the preferred embodiment of my invention, the water is introduced into the mixing chamber through a plurality of apertures. Also I find that a highly efficient form of dividing means is a fine screen located at the outlet, and I have found that even better results can be obtained if two or more superposed screens are used in the outlet discharge. The size of the mesh employed is not critical but I have obtained good results where the holes in the screen measured about .6 square millimeter.

Such a screen finely breaks up the water and offers sufficient resistance for thoroughly mixing it with air. On the other hand, the resistance of the screen is low enough to permit passage of the air in the form of bubbles disseminated in the water. The streamlets of aerated water are sufficiently close together, so that on leaving, they join each other to form a single jet.

My invention can readily be understood by reference to the accompanying drawing, in which Fig. 1 is a sectional view of a device embodying my invention which is shown as attached to an ordinary water faucet through the medium of a connecting device such as is described in my Patent No. 2,071,780; Fig. 2 is a sectional view of a device adapted to be screwed onto an ordinary water pipe; Fig. 3 is a section on line 3—3 of Fig. 2; Fig. 4 is a sectional view showing a further modified form; Figs. 5, 6, 7 and 8 are additional sectional views showing further modifications; and Fig. 9 is a section on line 9—9 of Fig. 8.

Referring now to Fig. 1, 10 designates an ordinary faucet or tap. 11 is a tap connector, the operation of which is described in detail in my patent above referred to. 14 is the casing of the mixing device enclosing the primary mixing chamber. The perforated screen 16 admits the water into the casing 14 in the form of a plurality of jets. A plurality of air ports 18 are provided for admission of air into the interior of the casing 14. 20 is a screen at the lower part of the casing, and below the screen 20 the casing narrows to form a passage 22.

When the water is turned through this device, if the faucet is opened only slightly, so that very little kinetic energy is developed in the water, as it emerges from the perforations in the screen 16, in proportion to the resistance of the screen 20, then the water will come out of the discharge 22 without air bubbles. On the other hand, as the faucet is opened wider, the velocity of the water emerging from the perforations in the screen 16, increases and acquires the necessary kinetic energy relative to the resistance of the screen 20, to effect entrainment and mixing of the air with the water.

While the total cross sectional area of the per-

forations in the screen 16, under the usual conditions of operation, is such as to force the water into the chamber with substantial velocity and the screen 20 has the proper relative resistance thereto, to effect the desired result, it is obvious that any change in the cross sectional area of the perforations in the screen 16 will require a change in the resistance of the screen, to establish the proportion necessary for the maintenance of substantially the same result. This water, again contacting with the screen 20, will pass through the screen with the air and emerge from the outlet 22. As the diameter of outlet 22 is substantially greater than the aggregate diameter of the perforations in screen 16, the water will have relatively low velocity as it comes out from the discharge.

When my device is functioning, the water, due to the thorough admixture of air, has characteristics which are surprisingly different from those of water as ordinarily discharged from a faucet. For example, if one's hand is put in the course of the water, the water will flow evenly and uniformly over the surface and will wet the entire surface without splashing. Also it will be found that if the discharge from such faucet is allowed to flow into a weak soap solution, it will make an extraordinary amount of foam, which will be found very useful for washing; for instance, when washing clothes or dishes. Again it will be found that the introduction of the air into the water will raise its dissolved oxygen content and the aeration tends to remove objectionable odors and gases from the water, rendering it more palatable. These effects are apparently due to the extreme thoroughness with which the aeration takes place in my device and the results are quite different from the results obtained by ordinary injection devices in which the air is not thoroughly broken up so that when the two fluids leave the apparatus, the air quickly separates from the water jet.

In the form of device shown in Fig. 2, a metal casing 24 is screwed directly onto the faucet 11. This casing holds the screen 20 against the mouth of the faucet and the casing is provided with an outlet screen 26. A series of ports 30 are provided in the casing to admit air in a manner similar to that already described in connection with Fig. 1.

In Fig. 4 the casing 32 is provided with a union coupling 34 for connection to an ordinary hose bib. The screen 20 is clamped between the casing 32 and the mouth of the hose bib. Air is admitted to the interior of the casing by a series of horizontal perforations 38. In this case two screens are provided at the outlet as indicated at 40 and 42, which will cause the air bubbles in the water to be somewhat smaller than where only a single screen is employed.

Fig. 5 illustrates a case where a single aperture is employed for admitting fluid to the chamber. In this figure, the casing 44 is screwed to the faucet 46 and clamps in place a plate 48 having a single aperture in the middle. A plate 50 supported by legs 52 is positioned in the lower part of the chamber and below this is positioned a screen 54. The water from the aperture in plate 48 strikes plate 50 and due to its kinetic energy the stream is broken up and thoroughly mixed with the air.

In Fig. 6 the plate 56 has a plurality of holes near the periphery and the casing 58 is formed with inwardly extending projections as indicated at 60. The principal part of the water coming through the openings in the plate 56 will strike these projections and be broken up as previously described. In this case, a screen 62 is also used in the device.

An effect similar to that shown in Fig. 6 is illustrated in Fig. 7 except that instead of having a plurality of apertures in the plate, the plate 64 has a single central orifice shaped to throw the water outwardly. The casing 66 again has projections as indicated at 68 similar to the projections 60 described above.

Another form of my device is shown in Figs. 8 and 9. In this arrangement it is possible to mix three fluids, one of which is under pressure. Leading into a mixing chamber 72 are a plurality of passages 74 to permit entrance of a fluid under pressure into the mixing chamber 72 enclosed by casing 78. The inlet port 76 intersects and leads into one group of passages 74 near the upper end of the passages; and another inlet port 77 likewise intersects and leads into another group of passages 74. The inlet ports 76 and 77 do not connect with one another; in consequence the channels 74 are grouped into two sections, each section being connected to an inlet port. In this form of my device each inlet port may admit a different fluid into the mixing chamber. The cross-sectional area of passages 74 is greater after intersection by inlet ports 76 and 77 and the cross-sectional area of the passages continues to increase as the passages approach the mixing chamber. As in preceding examples, the fluid under pressure courses through passages 74 and draws fluids from inlet ports 76 and 77 into the enlarged portion of passages 74. Baffles 78 project into the passages at the point where the passages discharge into the mixing chamber. The baffles in part interrupt the course of the fluids in each passage and thereby serve to effect a preliminary mixing of the fluids. Within the mixing chamber two screens 80 in spaced relation are placed across the path of the fluids emerging from the passages 74 to interrupt abruptly the course of all such fluids and thereby cause the fluids to mix and sub-divide into minute particles. The fluids are discharged through the outlet 82.

While I have referred to perforated upstream plates and downstream screens, it is possible to use perforated plates or (except in certain forms) screens in either position. In the various forms of device shown, the screens and the plates forming the apertures are made readily removable so that the devices can easily be claimed.

What I claim is:

1. A device for producing a coherent jet of water containing air bubbles, comprising a chamber, the inlet end of which is adapted for connection with the discharge end of a tube containing water under pressure and the outlet end of which is adapted to discharge the said coherent jet, a diaphragm at the upstream end of the chamber having at least one orifice through which the stream of water is adapted to be forced into the chamber with substantial velocity, an air port opening into the chamber through which air is induced by the stream of water, and means, in the path of the stream of water after it leaves the orifice and before it discharges at the outlet end, for finely breaking up the water and for offering sufficient resistance for thoroughly mixing it with air and for thereafter uniting the aerated water to form a coherent jet having small bubbles disseminated throughout the jet.

2. A device for producting a coherent jet of water containing air bubbles, comprising a cham-